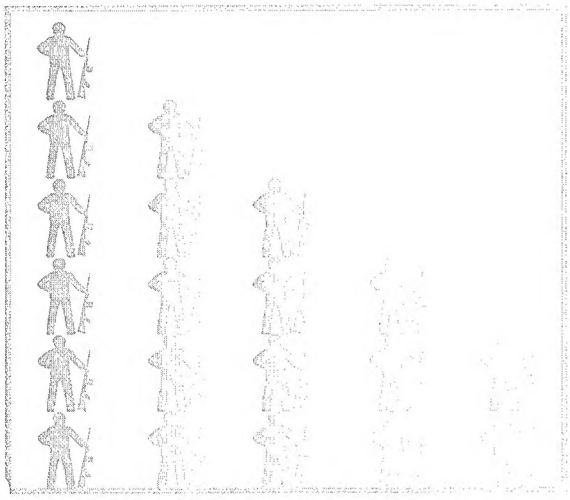
THE EFFECTS OF A SCALE-DOWN IN DEFENSE BUDGETS

GERMAN INDUSTRIAL ORGANIZATION

VOLUME TWO



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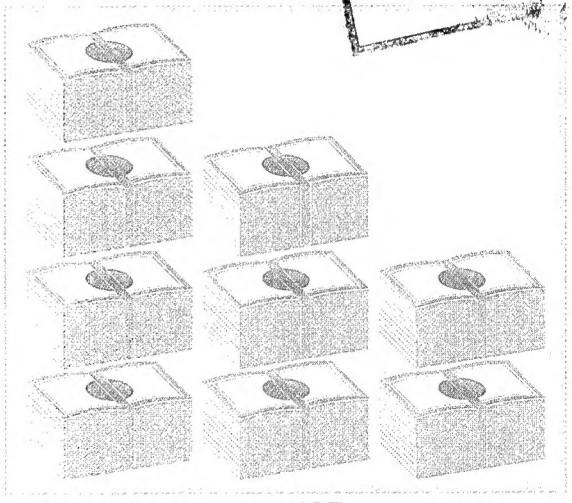

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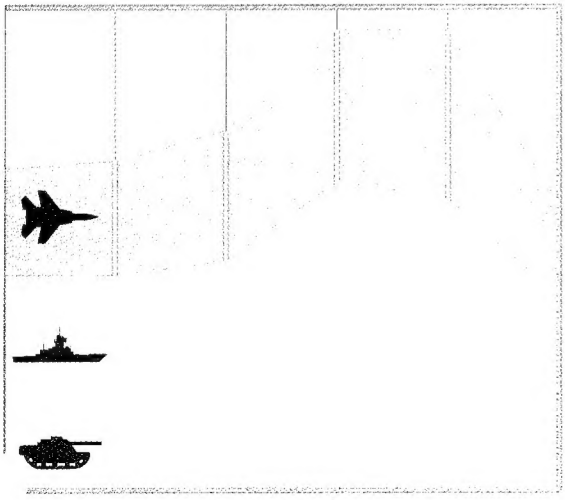

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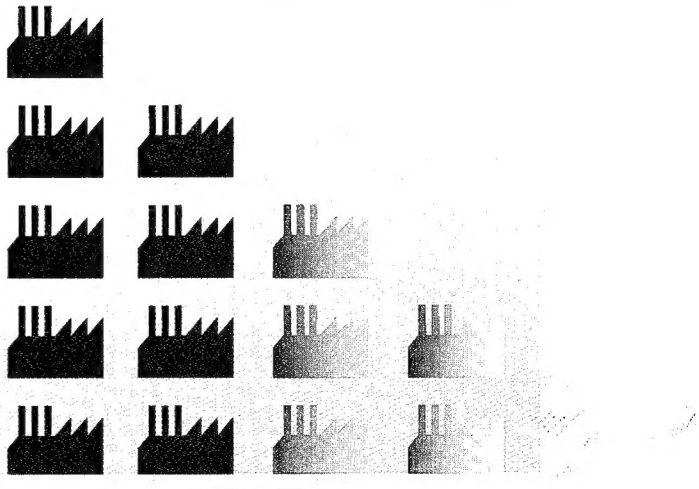

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One of the major tasks assigned this research effort was to compare the structure, organization and operations of the defense industrial base of the United States and Germany. The purpose here was to make assessments about how the defense industries of each of these countries will adapt to continuing reductions in their respective defense budgets.

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THE EFFECTS OF A SCALE-DOWN IN DEFENSE BUDGETS

VOLUME II

GERMAN INDUSTRIAL ORGANIZATION

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To Our Readers:

This report can be used as testimony for international cooperation in education and research. The foundation for this cooperation was built in November 1988 with the signing of an International Defense Education Agreement (IDEA) by:

- The Commandant of the Defense Systems Management College (DSMC) - United States (U.S.),

- The Commandant of the Royal Military College of Science (RMCS) - United Kingdom,

- The President of the Federal Academy for Defence Administration and Technology (FADA&T) - Germany, and

- The Delegate General for Armament signed the French Accession Letter in July 1991.

Experiences gained from and opportunities provided by IDEA resulted in a Memorandum of Agreement (MOA) between DSMC and FADA&T in September 1991. This MOA extended the IDEA to include a specific research topic of common interest: the comparable effects of a scale-down of defense budgets in the U.S. and Germany.

Planning meetings between the Commandant, DSMC; the President of FADA&T; and their staffs resulted in decisions to:

- conduct a "pilot-study" to learn what knowledge and data-nodes are needed for the study and the development of a research methodology,

- concentrate on the cultural-economic-legal drivers behind the differences (if any),

- use the U.S. Abrams tank and the German Leopard-2 tank as "comparable objects" for the pilot study to find meaningful comparable data and information, and

- use the U.S. part of the comparative study as the lead part, accepting some time slippage from the original plan.

The DSMC selected Georgetown (GTU) and the FADA&T selected the Institute for World Economy (IWE) at the University of Kiel (Germany) as their study partners.

Ready for action, GTU and IWE reported on data and information research with unrestricted support from the U.S. Army Materiel Command and the German Ministry of Defense. Without this enthusiastic support, the study would have failed.

The results of the joint effort by DSMC, GTU, IWE and FADA&T are documented in the present volume.

My thanks to all who supported this study. I regret that the late Professor David D. Acker, who started this project with Professor Franz Frisch, cannot enjoy the results.

I recommend this document not only as a guideline for other comparability studies but foremost to deepen the mutual understanding among NATO partners. Comments regarding this study may be referred to:

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PREFACE

When this research project was initiated in mid-1991, the initial appraisal of the robustness of the German economy led to the tentative conclusion that the German economy was arguably the most efficient in the world. The basis for this judgment was an analysis of different measures of economic and industrial efficiency, some quite objective and others quite openly subjective. For example:

1. Germany vies with the United States (U.S.) for first position as the world's largest exporter. There are times when Germany is Number One and times when the U.S. is Number One. However, the German economy is only one-quarter the size of the U.S. and, parenthetically, one-half the size of Japan (considered third in terms of the size of its export markets);

2. Holding aside the vagaries of foreign exchange rates, the German labor force is not only the most highly paid in the world but it also has the shortest work-week. Thus it seems safe to conclude that the return on labor in Germany is higher than in other industrialized nations;

3. Notwithstanding the level of German wage scales, German industry has been sufficiently profitable over the past twenty or thirty years to fund its continuing growth while providing satisfactory benefits not only to its owners, but also to other stakeholders. That includes the work force noted above, the local communities in which the company is located, and indeed, the Federal Republic as the surrogate for the community at large;

4. As a collateral to the above, and reflecting the communitarian approach toward economic policy that Germany adopted in the post-World War II period, most observers would agree that the German workforce is among the most highly trained in the world and arguably the most adaptive to technological change.[1] The collaborative effort undertaken by the German school system, German industry and the Federal and States governments has served to create a system geared to the rapid development and diffusion of technology throughout the economy;

5. The continued growth and strength of the medium-sized firm in Germany (and its collective position as the backbone not only of the economy, but also the foundation, on which Germany's export prowess is built) is referred to as *Mittelstand*. This group of firms accounts for 70% of Germany's exports and controls a number of specialized niche markets world-wide. Unlike the more visible Japanese firms, German firms are primarily in the markets for capital goods and, given German political

[1]More accurately, the communitarian approach to social organization has been an inherent factor in German economic development since the early 1800s, and it draws on the experiences of the guild system which emerged in Germany in the 15th and 16th century. For a more modern perspective on this matter, see Chapter 3 on the role in modern Germany of the Chambers of Commerce and Trade.

sensitivities, not overly visible. As such, Germany has avoided engendering the type of criticism for its economic policies that have been levelled against Japan; and

6. The safety net built into the German employment system serves to protect the typical worker against any sudden loss of *purchasing power*. The cost of this safety net is now under scrutiny in all of Europe as the result of the failure of most of the European economies to maintain high employment levels; the overall benefits the system has, at least so far, helped to maintain social and political stability.

This list is, of course, not inclusive. There are other measures of economic and political efficiency that could be cited here. The fact is the German economy, at least until 1991, met virtually all of the requirements set for it by the German polity. The country was rebuilt after World War II. The institutions on which its overall social system relies were reformulated. And the country, for the first time in its long history, has been able to maintain itself as a reasonably free and democratic society, albeit in a Germanic model - that is to say, a parliamentary democracy.

Since 1991, as the result of the unification of West and East Germany, the German economy has suffered some relatively severe dislocations: a marked drop in productivity; an increasing Federal deficit; a decrease in its export base because of the widely-based recession in Europe and an unfavorable dollar/Deutschmark exchange rate; some loss of competitiveness in some of its industries; and some discouraging levels of social unrest. At issue now is the willingness of the German polity to make the sacrifices necessary for restabilizing their economy and setting it, once again, on a growth trajectory. In this regard, the German federal government has taken the initial steps that appear to be necessary. The only question, and one which is beyond the scope of this study, is the innate willingness of the German people to make the sacrifices that will be asked of them. Only time will provide this answer.

Conversely, and very much within the scope of this study, is the fact that not all problems have economic solutions. From the perspective of an economically-oriented cost/benefit analysis, the costs of German unification now appears to be extremely high. From a political perspective, however, the cost appears to be extremely low.[2]

The analysis here is straightforward. By funding a piece of the chess set that helped to dissolve the Soviet Union and its Eastern bloc, the Germans have now minimized the greatest threat that a nation can face, that is, a conventional or nuclear war fought on its territory. By moving quickly and decisively towards unification, the German government

[2]The view is correct but, possibly, only from a geopolitical perspective. From a purely political perspective, the outcome may be far different if the eventual effect of German unification is to modify dramatically the role in Germany of the various political parties. In this instance, one must ask whether Germany has mortgaged its economic future by committing to East Germany the funds that it could have used in 1992 and 1993 to stimulate its domestic economy. To some degree, Germany has lost its competitiveness in many foreign markets, a critical loss to a nation that typically exports between 25-30% of its national output. Unemployment has also increased, placing an additional burden on an already highly taxed nation. In this regard, there are some observers of the German scene who believe that the high cost of German unification will be a drag on the German economy through the 1990s, thus increasing social tensions and domestic political risks. These observers maintain that the increase in external security has been bought at the price of a decrease in domestic and Western European security. See, for example, Lauk, Kurt, V., "On the Efficiency of the German Economy," *Daedalus*, Winter 1994, Boston.

effectively moved eastward the primary geographical location for any future conventional military conflict. From this perspective, the cost of the unification of the two Germanies is extremely low; a price we believe any threatened nation would be more than willing to pay. Simply looking at the short-to-medium term economic costs of unification otherwise beggars the problem. For the German people unification appears to have bought the most critical of all governmental services: the protection of a nation from external military threats.

To return to where we began, there is much in the German industrial organization that is commendable. If the country can exert the political, social and economic discipline required of it by unification, then the German future will likely be as bright as has been its more immediate past. Notwithstanding the sudden and somewhat unexpected resurgence of the U.S. economy in the latter part of 1993, there is still much that the U.S. can learn from the German experience.

Of foremost significance is the fact that the increasing trend toward the internationalization of the world's economy is, to a great degree, a "loose cannon." For example, the ultimate effect on the more advanced economies of the rapid development of the non-Japanese Asian nations (China in particular) is a substantial unknown. If more advanced economies are to avoid an erosion in their standards of living, it seems evident that new economic and industrial strategies will have to be pioneered. In this regard, the traditional German reliance on the small-to-medium-sized business firm as the key factor in its penetration of foreign markets may well present a model worthy of deeper study and analysis.

In meetings with a limited number of the American-based subsidiaries of German firms, it became evident the small-to-medium-sized American firm has failed to organize itself in ways that would allow it to benefit from a substantial international demand for U.S. made products and technologies. This failure is normally attributed to the fact that the large size of the domestic market inhibits U.S. producers from looking overseas for sales and profit growth; that the small-to-medium-sized domestic firm does not need these markets to survive.

But the failure can also be attributed, if only partially, to two other factors. The first is the lack of an infrastructure designed to actively promote foreign trade by the small-to-medium-sized firm. The second is the lack of a managerial philosophy that sees foreign markets as a vital growth area both economically and strategically. In this regard, the evidence would suggest that the German *mittelständische Industrie* have been more farsighted and effective than have been their American counterparts. Consequently, as a group they have contributed substantially to the maintenance of a high standard of living in Germany and to the observed robustness of the German economy. As such, it seems evident that a better understanding of the mechanisms used to integrate them into both the German and the world economy is essential. Organizing the material needed to develop this understanding is the underlying purpose of this research.

Organization of the Study

A number of these medium-sized institutions are discussed at greater length in this report. Based on observations and analyses of German industry, it now seems evident that a

significant portion of the post-war success of German industry can be attributed to the ready availability in the nation of a highly educated, skilled and disciplined labor force. More cogently, German industrial structure cannot be fully understood except as it is viewed within the overall institutional system of which education is but one key component. For this reason, a detailed discussion of German industrial structures is presented in Chapter 1.

Although the main thrust of this project is on industrial organization, Chapter 2 presents a moderately detailed overview of the German educational system. The information is significant to the project.

This in turn is followed with a discussion in Chapter 3 of the role in the German economy of the Chambers of Commerce and Trade. These are special form public-law German corporations responsible for the diffusion of business and technological knowledge throughout the various tiers of German industry. The Chambers are an integral part of the vocational education system, are actively consulted by all levels of German government, and are active both domestically and internationally. To some extent, they may be regarded as the "glue" that lends coherence to many aspects of German industrial organization. At a minimum, their organization and operation reflects the communitarian ideal around which Germany is organized.

Chapter 4 looks at the German model of corporate organization and governance. It is significantly different from the U.S. model. This outcome reflects a number of historical factors: the socialist tendencies apparent in German political and social structure in the late 1800s and the carry-forward of these tendencies into post-World War II Germany; the reliance of the German legal system on both Roman law and the Napoleonic code; and, last but not least, German business tradition.

The German capital markets are discussed in Chapter 5 with special emphasis given to the three-tiered German banking system, and, in particular, to the universal banking system that is the centerpiece of the German financial system. A limited amount of space is allocated to the equity markets because of the relatively insignificant position that they hold in the overall market for corporate capital in Germany. The chapter ends with a brief discussion of the *Bundesbank*, the central bank of Germany, because of its pervasive influence not only in the German capital markets but also for the key political role that it plays in promoting stability within the overall economy.

Chapter 6 presents a broad-brush synthesis of the material presented in the earlier chapters by comparing U.S. and German industrial realities. An effort is made here to highlight those aspects of German practice that may have applicability, or potential adaptability, to the American scene. The technology diffusion practices in Germany are reviewed. Additional remarks are directed at the emphasis placed in Germany on the importance of "middle level" industrial skills. To further clarify some of the material set out in this chapter, the "Explanatory Matrix" included in Volume I has been annotated and reintroduced as Appendix A to this volume.

Chapter 7 concludes the effort by briefly revisiting the "down-sizing" problem that was the initial impetus for this research effort. Given the three-year time span between the

inception and the completion of this project, some elements of "20-20 hindsight" cannot be avoided. More pointedly, it is recognized that the past histories of industrial conversion are still relevant; converting defense-oriented firms from military to commercial production is, to a great extent, a thankless and potentially impossible task. Remaining unclarified is the reconstitution problem; technology notwithstanding, long lead times will be needed to reconstitute defense industries should this need arise in the future. Ultimately, the problem here is that of the underlying size and inherent complexity of the defense industrial base, however it may be defined.

1

GERMANY

Introduction

One of the major tasks assigned this research effort was to compare the structure, organization and operations of the defense industrial base of the United States (U.S.) and Germany. The purpose here was to make assessments about how the defense industries of each of these countries will adapt to continuing reductions in their respective defense budgets. As such, the research was ultimately concerned with determining if the German economy is more or less robust than the U.S. economy; that is to say, whether the adjustments to lower defense spending will disrupt the economy of one country more than that of the other. And, if a difference is found, to try to establish reasons for these differences.

In order to do this, an understanding of the managerial decision-making process in Germany is essential. Ultimately, the effect of the reduction in defense budgets will force the defense-dependent business firm to adapt to a new set of economic conditions. The scope, content and success or failure of the adaptive process, however, will be dependent on two over-riding factors: the first, as discussed in Volume I, will have to do with the general state of a nation's economy and its relative dependence on defense acquisition programs; the second will be a function of the individual firm's ability to either expand older non-defense markets or create new ones. Here, a number of subsidiary factors are relevant: the prior business history of the firm; the nature of its capital equipment; the technological skills of its workforce; and ultimately, the foresight of its executive staff. These are, in the end, the key variables around which a corporate strategy is developed and implemented.

Understanding the corporate strategy process in an individual nation, however, requires adequate knowledge about a nation's *institutional structure* and the impact of this structure on the organization and management of the country's industrial base. Institutional structures are the key elements of the German social, political and economic system, for example: the corporate governance process in Germany; the organization and operation of the country's banking system and capital markets; its system of public corporations; its educational system; and other societal systems that have a significant impact on corporate behavior. Because there was no one source for this type of information, a decision was made to identify, investigate and subsequently analyze a number of the institutions that are an integral part of the German economic system.

Put differently, the question that was being asked was whether the German industrial organization is sufficiently different from the U.S. industrial organization, such that the individual German firm is better able to adapt to a new set of competitive conditions than its American counterpart.

And if it is organized differently, what these differences are. Given this requirement, a thorough understanding of the institutional structure of the German economy was essential.

This understanding is, of course, important in and of itself. Further, this understanding gains additional importance when it is recognized that the industrial structure under-pinning the German economy is among the most efficient in the world, the current economic power of the U.S. and Japan notwithstanding.[1] Following on from this conclusion, it seems obvious that one needs to ask what there is of value that the U.S. can learn by taking a more informed look at German industry than has here-to-fore been done.

Although the Japanese are generally regarded as our greatest competitors internationally, the facts are that Germany is the world's largest exporter of high value-added industrial and consumer goods.[2] The major difference between the two countries lies in the visibility of the markets that they have elected to serve.[3] The Japanese penetration and position in U.S. markets and other foreign markets are far more visible than that of the Germans. But the fact remains that Germany is, from time to time, the world's most preeminent exporter. German firms have out-competed U.S. producers in many significant product and geographical areas and can be expected to continue doing so in the future.[4]

This last statement is not a criticism of U.S. industrial practice, nor should it be interpreted as such. The U.S. economy is still the largest and the strongest in the world. And, the popular press to the contrary, U.S. labor is still among the most productive in the world. Notwithstanding this, there are lessons to be learned from more intensive and analytical looks at some of our foreign competitors.

A Note on Methodology

As the study gained momentum, it became readily obvious that Germany is substantially different from the U.S. and that these differences are rooted for the greater part in Germany's history. In order to understand these differences, we found it necessary to review past lessons in the history of both the German people and the German nation and relate these differences to the country's current economic system. Here the emphasis was on avoiding some of the more conventional answers to the question of German industrial efficiency. For example, there was a time when it was believed that German

[1]This is a judgment call that cannot be verified empirically. The primary basis for this judgment is based on the high wage scales in Germany, the length of the workweek, the system of welfare benefits in place in the country, and the profusion of tax-free benefits, such as education, provided the German populace. Compared to most other nations, the German system appears to be generously effective in terms of the social safety net provided to the polity as a whole. At issue, at least in late 1993 and 1994, is whether or not the German economy can regain the momentum that it lost after the unification of the two Germanies and whether or not it will have to disassemble, in full or in part, the extensive safety nets that have been one of its key features in the post-World War II period. Based on the outlines of economic proposals presented the country in the latter part of 1993 by the Federal Government, and the corrective actions now being taken by German industry, the least that can be said is that the decision-makers in Germany are aware of the problems and are moving in the direction needed to correct the problem. Only time will prove the effectiveness of these measures.

[2]See Appendix B for relevant economic data.

[3]For an excellent discussion of this issue see Tom Peters, "The Japanese May Be Getting the Press, But the West Germans Are Getting The Business". *Across the Board*, February 2, 1992.

[4]See, for example, "Lessons from Germany's Mid-sized Giants" by Hermann Simon. *The Harvard Business Review*, March-April 1992.

industry was as efficient as it was primarily because it had to rebuild its plant and equipment in the post-World War II period; such that its capital equipment was then more modern and hence more efficient than that found in nations whose infra-structure was not destroyed during the war. If nothing else, this does not tell the whole story.[5]

First, World War II is now almost fifty years behind us. In the intervening period, virtually all of the capital equipment of most producer nations should have been depreciated and replaced with more modern plants and equipments. In other words, if Germany gained an advantage by being destroyed, then time should have destroyed that particular advantage.

Second, the research staff wanted to avoid the ploy that suggests that "business is business" and that managing a business firm in Germany, or any other foreign nation for that matter, is the same as managing a firm in the U.S.[6] Here, once again, institutional forces and history are important as they serve to bring into existence a national ideology that both creates and tempers management attitudes and practices. In other words, it is being suggested that the German world view of economics, industrial structure and other environmental and institutional factors is significantly different from that of the U.S., and that this world view profoundly influences the organization and management of German industry.

Indeed, to perhaps get ahead of ourselves for the moment, it was concluded that the German economy, and the adaptive mechanisms which are built into it, must be viewed in this light. On the one hand, the German economy has adapted to a modern world. On the other hand, it still adheres to an institutional structure and tradition that relies heavily on the past. The miracle of the German economy has been its ability to transfer the past into the future in a highly adaptive and profitable manner; politically, economically, and socially.

In order to amplify on the reasoning that led to this conclusion, a brief historical overview follows. This review is then followed by more thorough discussions of a number of the institutions that have helped to shape the present-day Germany economy.

Historical Overview[7]

Alone among the highly industrialized nations, modern Germany is a structure *sui generis*, that is to say, one of a kind. Not only

[5]This was the reason advanced by the popular press in the late 1960s and early 1970s for the seeming competitive advantage that the Germans and the Japanese enjoyed *vis-à-vis* the U.S. in many key manufacturing-oriented industries. Then it may have been a reasonable assessment, but World War II ended almost fifty years ago. As a nation, the U.S. should have either replaced or rebuilt virtually its entire industrial sector consistent with modern manufacturing technologies.

[6]The statement "business is business" is obviously an opinion based statement. However, it reflects much of the thinking extant in the business community up until the mid-1980s. Until then, it was generally asserted that managing a firm in a foreign country was no different from managing a firm in the U.S. To a great extent, this view reflected a belief in the seeming superiority of American management methods as espoused by the American business and academic communities. It is only recently that both of these communities have recognized that there are different management paradigms, some of which, based on the evidence of the pervasive lack of competitiveness of many U.S. industries, are more effective and efficient than others. There is a substantial body of literature now attesting to these differences. For a German perspective on this, see "The New Era of Eurocapitalism" by Herbert A. Henzler, *The Harvard Business Review*, July-August, 1992.

[7]The various sources used as the basis for the material presented in this section are listed in the bibliography. Given the broad charter of this research project, a distinct effort was made to review both American and German sources in order to provide a more balanced interpretation to the received data.

was Germany the last of the now industrialized nations to attain nationhood more or less, but it was not until after the Franco-Prussian War of 1870 that Germany cohered into its current political and geographical structure. Even then, the creation of the German State, *per se*, was more a result of the political and economic pressures exerted by the various Bismarckian reforms than by popular choice.[8] Prior to the 1870s, what is now regarded as modern Germany was comprised of approximately thirty-five small nations, i.e., the Prussian and Bavarian kingdoms, small duchies, principalities and free cities, each of which was ruled by a self-perpetuating autocracy. In particular, each of the various independent nations and sub-nations was ruled either by a King, Prince, Archduke or Duke, depending on its history, size and antecedent position in the Holy Roman Empire of the German Nation. Indeed, somewhat ironically, George IV of England was the designated ruler of German Saxony and, in more modern parlance, "double-hatted".

Second, until the 1870s and the ascent to power of the Hohenzollern dynasty, German nationalism was muted. Prior to the consolidation period of the 1870s, there was no one unified German state to which one's loyalty might be pledged. The factor then unifying the German people, if indeed there was one, was a common commitment by the elite and the masses to a set of mythologies that led to a somewhat amorphously defined German "culture and ethos". And even here, there was a diversity in thought based both on the group's perceived ethnicity and the individual's social rank. Today, thoughtful mention is still made in Germany of the numerous ethnic groups that comprise the German people. Indeed to the consternation of many an American, some modern Germans still refer to the various regions of the country as presenting tribal differences in history, tradition and culture. Thus, despite its perceptions by others, as it is now understood, German nationalism is a rather recent historical outcome of the Napoleonic era. It was not until the German's defeat at the hands of Napoleon that the concept of a non-Austrian German nation took root.

Equally important is the fact that Germany was led until 1918 by a powerful, well-entrenched aristocracy that successfully limited its need to share power with the German people over whom it ruled. Although there were some abortive attempts made in the 19th century to establish a democratic form of government in Germany, none of these attempts succeeded for long.

A number of reasons for this outcome have been posited: the lack of political and cultural cohesion in the various Germanies prior to its amalgamation into one nation during the Bismarckian era; the relatively small size in the 1800s of its middle class; the system of governance imposed on them by the Prussians once the country became unified; the religious split between the Catholics in the south of Germany and the Evangelical Protestants in the north; the acceptance of the concept of a natural hierarchy following on from their belief and commitment to the concept of the Holy Roman Empire. And, not the least, an apparent willingness by otherwise democratically-oriented political groups to subordi-

[8]The most famous of these reforms was the world's first social security system, enacted into law in 1881 by the German government. This reform, as well as other Bismarckian reforms, was prompted or otherwise forced by the recognition that the greater portion of the German population, then as now, favored a socialist form of government and would only yield power and authority to the Wilhelmine monarchy and its ruling hierarchy if certain "safety net" type programs were enacted. As an interesting historical note, the retirement age in 1881 was set at age 65 on the assumption that relatively few persons would live long enough to collect the prescribed benefits.

nate their desire for a democratically-based Germany to that of a unified Germany.

However, whatever the fundamental cause or causes, the more central fact is that democracy did not, and indeed was not allowed to, take root in Germany. Despite the trend toward a more open and democratic system in the rest of Europe, Germany's elite successfully resisted this trend. The country did not turn democratic until the 1920s with the creation of the short-lived Weimar Republic. And even during this short-lived era, the elites that controlled the country prior to World War I survived as a major force in German political and economic life.

When this history is viewed from an American perspective, one might very well suggest that Germany is a country of two minds; and that these two minds have roots in the acculturation process ingrained into the German ethos during the long reign of the Austrian-based Holy Roman Empire of the German Nation.

The first mind reflects the willingness of the German people, especially those in the German south, to accept the notion of a unity of church and country. This belief in the unity of church and state is, of course, diametrically opposed to the Anglo-Saxon concept of participative government in which church and state are inexorably separate. This concept has really never taken strong root in Germany. In fact, in modern Germany, the church still functions in as an arm of the government, and especially so in the social welfare and educational fields.

Quite critically, it was this acceptance of a unity of political and religious authority and responsibility that allowed for the perpetuation of a class-oriented *status quo,* in which the elite maintained its relative position in the country, almost irrespective of governmental changes. More so, it allowed for the perpetuation in a modern and democratic Germany of some institutional structures and frameworks created during the times of the Wilhelmine empire. The aristocracy still exists albeit peripherally, as do some of the elites created during the monarchical period. Although they now share power and authority with others, are significantly reduced in number, and are committed to a democratic form of government, their position in German society is strongly rooted in the German ethos which rests on a synthesis or unification of worldly and spiritual powers. Their traditions are still reflected in some aspects of German political and economic life.

The other mind of Germany is the one that rejects this earlier tradition and seeks to change it. The pockets of distrust and, in some cases, abhorrence of "big business" and "big government" in Germany is indicative of this other mind. As evidenced by both World Wars, the German government has, in the past, failed its people. In both of the German regimes whose actions led to unsuccessful major wars, big business and big government were inextricably bound together. This then means that both government and business must be controlled or, if not controlled, kept from needlessly intruding into the otherwise private affairs of the polity. Evidence of this can be found in the compact between German labor and German management which calls for harmonizing their interests in a way designed to minimize the need for government intervention in the private economy. In sum, German society has become consensus-oriented as a way of impeding the potential economic and political power of any one group.

It does not require a daring leap of logic to suggest that the major position in the

economy accorded to the large group of *small* German companies that now controls a significant portion of the German economy, is an outcome of this second set of social attitudes. Any concentration of power has to be an anathema to a people whose history has been marred by the destruction wrought on their nation when power was allowed to be concentrated in far too few hands.

In a similar vein, the assertion of civilian control over the military has to be seen not simply as a reaction to the excesses of the Hitlerian era, but also as a desire to avoid the dual governmental structure imposed on the newly unified German nation by its Prussian state in which, for all intent and purposes, the military was a separate force politically, economically and, perhaps more pervasively, socially.

Intriguingly enough, one could make a case for suggesting that the social system imposed on the German nation by the Prussian *Junker* still exists, albeit in a somewhat modified form. The continuing use of titles in Germany, and the implication that the use of such titles bestows social legitimacy on the individual carrying the title, can be seen both as a residue of and a response to the dominance in German society of the Prussian aristocracy and its control over the military, then the highest form of service to a hierarchically-organized and dominated state. In this regard, one fights titles with titles as evidenced by the use of the term *Beamter* to describe the rank and role in German society of the higher elements of the German civil service. Denied access to one set of careers, a latent elite will try to create its own career path with all of the formal trappings of this new profession.

For an elite to exist, however, it must have something to which it can show loyalty and fealty. In Germany, this sometimes still tends to be the state and the long-lived traditions which the unified state represents. The German economy, and the adaptive mechanisms which are built into it, must be viewed in this light. On the one hand, the German economy has adapted to a modern world. On the other hand, it still adheres to an institutional structure and tradition that relies heavily on the past. The miracle of the German economy has been its ability to transfer the past into the future in a highly adaptive and profitable manner; socially, politically and economically.

Ideology

Germany, then, is different from the U.S. These differences can be found not only in the ideology that guides its social structure and economy, but in the institutions around which the German economy and its industry is organized.

Perhaps the best explanation of the differences between the two nations can be found in an exploration of the terms individualism and communitarianism as they are now used by historians and sociologists.

The dominant ideology in the U.S. has been defined as that of individualism, that is to say, a political and social system built around the concept of the individual as the key or central actor socially, politically and economically. Evidence of this commitment to the individual can be found in the American legal code with its heavy stress on individual rights; an individual's view of labor and labor relations, an individual's view of the role and responsibility of government, and an individual's economic ideology with its heavy emphasis on such factors as maximizing the consumers' so-called utility function.

As is evident from the above, one facet of this ideology relies on a commitment to a free-market economy based on the philosophic concepts espoused by Adam Smith. Another facet of the U.S. economic ideology can be found in the rather steadfast adherence to the Lockeian notion of private property. In a somewhat different vein, a third facet of U.S. ideology is based on the ethical belief that morality resides within the individual and does not, as in some European nations, require institutional reinforcement either by the State or by the Church.

These ideological commitments, as well as other commitments, are then made real by the development and structuring of societal and economic institutions that operate or function in a manner consistent with the underlying ideology. The U.S. legal system is one such institution. The forms of ownership, governance and regulation of the U.S. industrial structure is another such institutional structure or, in this case, a set of institutional structures. In each case, the key principle underlying the organization and operation of the institution is the rights and responsibilities of the individual. It is around them that society is putatively organized.

Germany is different in that the role of the individual is subordinated to that of society as a whole.[9] Here, an understanding of the effects on the German people of the post-Napoleonic period is vital.

In 1848, the German people attempted to force the creation of a democratically-based society in the various parts of the land. On balance, they failed but gradually gained concessions from the ruling elite that can now be seen as the basis for the organization and operation of many of their institutions. The German welfare system, with its emphasis on the maintenance of the purchasing power of the unemployed and sick, is one such institutional factor. The notion of worker participation, or *Mitbestimmung*,[10] as it is termed in German, is another key institutional reality. In a dif-

[9]There are some positive and some negative aspects to this attitude. The proto-typical American view would be that this subordination of the interests of the individual to that of the group is an outcome to be avoided. In light of the more communitarian attitudes of the Japanese and the significant successes scored by Japanese industry in the post World War II period, the American approach toward a highly competitive, individualistic social and economic system is now being questioned by some. For a more positive European view of German communitarianism see, for example, Michel Albert, *Capitalisme vs. Capitalisme*, Editions de Seuil, Paris, 1992, and Gloucevitch, Phillip, Juggernaut: *The German Way of Doing Business*, Simon and Schuster, New York,1992. (With reference to Japan, this list of possible readings is extensive and need not be cited here.)

A centerpiece of much of this literature is an analysis of the impact of culture on industrial behavior. The two authors cited maintain that this topic has not received adequate attention in the U.S. That the issue is contentious is obvious from a 1994 reading of the American business press which continues to point to the current levels of unemployment in much of Europe, and in particular in Germany, as portents of the ultimate failure of communitarian-based economic systems. In the instance of Japan, many of these articles focus on the growing lack of competitiveness in the U.S. for specific Japanese products, while paying only peripheral attention to the fact that the value of the Japanese yen *vis-à-vis* the U.S. dollar is one of the major causes of the current Japanese difficulty.

The more cogent issue, albeit one which is beyond the scope of this current analysis, is the overall state of the U.S. economy and its underlying social system. Here, four issues are relevant. The first is the levels of unemployment in the U.S. economy. The second is the gradual decrease in the purchasing power of most Americans. The third is the U.S. trade deficit which now appears to be a permanent part of U.S. industrial structure. The fourth is the growing civil disobedience in the U.S.

From a different perspective, the topic that is left undiscussed, at least in the popular literature, is the fact that the world economy has grown and evolved in ways that were not otherwise anticipated. And, as a result of this, that no one is truly able to explain what is happening to this world economy with sufficient specificity to allow for a controlled and potentially optimizing solution to whatever the reality of a world economy may be.

[10]For a discussion of *Mitbestimmung*, see Chapter 4 Corporate Governance.

ferent institutional area, Germany's universal banking system is yet another of the key institutions shaping the German economic ethos.

Although it would be foolish to suggest that the development and growth of these various institutions were based on a predetermined design, over time their form and content appears to have been modified or molded into an overall pattern which places responsibility for maintaining social stability and economic progress more on the institution than on the individual.

Here, the glue that holds the system together may well be the German view of *The State* along with the concomitant ethical belief that morality resides in the government and its institutions rather than in the individual. More understandable for an American would be the idea that the utter destruction of Germany during World War II underscored the need for a new social compact in which the costs of the war were to be shared by all as were any future benefits that might derive from the rebuilding of the country.[11] Equally understandable to an American would be the desire on the part of the individual German to diffuse the power of the various social, political and economic systems that make up a modern society.

Notwithstanding this, Germany was not created anew after World War II. Many of the key institutions that make up the German economy have histories that derive from the nineteenth century and before. They have been modified over time, but only in part. Tradition dies hard in Germany. The force of tradition can still be found in the form and interaction of many of these twentieth century German institutions.

German Reality "*Ordnungspolitik*" and the Tripartite System

Germans use two terms to describe the post-World War II structure and operations of their economy; *Soziale Marktwirtschaft* — or social market economy — and *Ordnungspolitik*.

Although the term "social market economy" was coined by Alfred Müller-Armack,[12] the concepts underlying it and the implementation of the mandates prescribed by such a system are regarded as the creation of Ludwig Erhard. Initially Erhard was the economics administrator

[11]For a very foresighted discussion and still relevant analysis of many of these matters, see Edwin Hartrich, *The Fourth and Richest Reich*, Macmillan Publishing Co., Inc., 1980.

[12]A member of the so-called "Freiburg School" of Economics, Alfred Müller-Armack (1901-1978) does indeed deserve credit for the term "Sozial Marktwirtschaft". Of his entry under this title in: *Handbuch der Sozialwissenschaften*, ed. Erwin von Beckerath et al. 9 (1965), but the term was coined already in 1946, when Müller-Armack was teaching at the University of Münster. It was there that in his *Wirtschaftslenkung und Marktwirtschaft*, Hamburg 1947, the term appeared in print for the first time. Of three possible forms or orders of economy: liberal economy, economy by governmental control and social economy, i.e., an economy guided or shaped by social considerations, only the third is a viable choice for him. Economy must be based on highest individual achievement, but at the same time its particular form has to become part of a consciously shaped overall (social) structure. His active participation in the implementation of his thoughts began with his appointment as Ludwig Erhard's *Staatssekretär* from 1958 to 1963.

Notwithstanding this, Prof. Ludwig Erhard (1897-1977) is undoubtedly the force most responsible for the economic recovery of Germany after Word War II. It took enormous courage for a German politician at that time to announce at the very day of the currency reform on June 20, 1948, in the face of the opposition of the Western occupation forces that the days of *Zwangswirtschaft*, the Government-controlled economy, were over and that from now on the forces of free market economy would rule. The most crucial of the many guidelines he pronounced and saw through implementation was his insistence that the "social market economy" must not be hampered by restrictions of competitions as imposed by cartels and monopolies. For the Germans he was, and still is, the *Vater des deutschen Wirtschaftswunders*, the father of the miraculous German economic recovery.

for the American zone of occupation then subsequently the Minister of Economics and, ultimately, the Chancellor of Germany.[13] The concept of a social market economy rested on a number of principles:

- A system of free prices to guide decisions
- Currency stability
- Open markets
- The right to private property
- Freedom of contract
- Liability for actions and decisions
- Consistency of economic policy
- Control of monopoly tendencies

However, without a unifying theme these principles are no more than that. If these statements are to be made real, an agreed upon but amplified social contract is necessary. In addition, a systemic structure consistent with these principles must be brought into existence. It is the totality of all of this that is often referred by Germans as *Ordnungspolitik*.[14]

The systemic structure ultimately adopted by the Germans is, based on this research, unique in that the German industrial system is three-tiered. At the first level, there is the government at both the Federal and State levels. At the second level, there is an organized and legally constituted set of quasi-public institutions, of a type unknown in the U.S. The third level is private industry.

The organization and role of government and private industry are sufficiently similar to those found in the U.S. to need no further comment here. It is the legal mandate and role of the quasi-public sector that is different. Briefly put, it is this sector, or the *Verbände*, as they are referred to in Germany,[15] that act as the intermediaries between government and industry. Although the term quasi-public may best describe them from a legalistic perspective, the term intermediary best describes their role, function and responsibilities in German society at large.

The use of the term quasi-public, however, is based on the fact that the legal basis for the *Verbände* and their mandate can either be found in the German Constitution or in subsequent legislation and regulation. To this extent, they are a creation of the government. Conversely, they are autonomous organizations whose primary source of funds is private industry! More confusing to an American is that the *Verbände* carry out functions in the German economy that are most normally accomplished by the government in the U.S. Further, membership in virtually all of the *Verbände* is compulsory.

For example, two of the most evident *Verbände* (associations) are the German Chambers of Commerce and Trade (see Chapter 3). They are responsible for such things as issuing licenses and work permits, setting local and regional store hours,

[13]The word "social" has a negative connotation in the U.S. The opposite is true in Germany. In shaping German economic thought, Erhard quite clearly stated that a welfare system would ultimately wreak havoc with economic progress. As such, he believed that true social and economic security could come about only through individual effort and achievement.

[14]As with many other German terms and expressions, there are no direct equivalents either in English or in the American version of the language. As such, no attempt will be made to translate the term.

[15]Once again, a direct translation is difficult. The term *Verband* is probably best translated as an association; as in the Association of American Industries. At the same time, it can also be translated as meaning federation; as in the American Federation of Labor. The correct translation is nowhere near as important as the concept underlying the use of the term.

supervising and coordinating vocational training programs in their respective areas and, perhaps most important of all, representing the small-to-medium-sized business that is the hallmark of the German economy.

The roles and functions of these associations then implement many of the concepts implied by the term *Ordnungspolitik*. As such, they can be regarded as the glue that holds together much of the German social, political and economic system.

2

THE GERMAN EDUCATIONAL SYSTEM

Introduction

One of the key risks in any form of social science research is that of implying a sense of order to the organization and operation of the subject under review that may in fact not exist. Here, that means the German economy!

As discussed earlier, it appears evident that the German economy is extremely efficient if efficiency is measured in terms of the ability of an economy to sustain an acceptable and continually improving standard of living. Moreover, it also appears evident that the overall German social system is equally successful if success here is measured by the ability of the underlying system to contribute to a stable and prosperous social, political and economic environment. From a research perspective, many of the various facets of the German institutional structure appear to mesh well, that is to say, that there appears to be a *grand strategy* underlying the post-World War II development of the German economy. To an outsider potentially unaware of the strains and stresses inhabiting another person's world, it looks as if there were a super-intelligent hand that guided a multitude of social, political and economic factors.[1]

The pertinent question here is whether or not this grand strategy is evident only to the researcher, and only because the research process *per se* is structured around an orderly search for rational explanations to a set of otherwise unexplained phenomena. Put another way, does an overall social system, as it is described by the output of a research-oriented process, appear to mesh because there is no reasonable way to communicate the results of the research without this synchronization?

This is not a frivolous question and especially so in research directed at so broad and complicated a subject as the structure, organization and operations of the German industrial base. In other words, the results of this research would suggest that the

[1]A German response to this might well be that it was basically the fact that *everybody was poor* and had the will and skill needed to improve one's lot under talented leadership by building on traditional, proven institutions. The self-same German response has also suggested that the process would have been a slow one but for the help provided by the Marshall Plan.

Although the answer is a plausible one and pleasing to an American, it is still too simplistic a statement to be accepted on its face value only. Other countries were presented with the same challenge but not all succeeded to the extent that Germany did. Underlying the German success may well be the concept of *Ordnungspolitik*, a German term that is difficult to translate directly into English except as to say that it suggests the adoption of a social contract in which all of the parties agreed what was to be done, how it was to be done and what the prospective outcomes were to be.

There are those such as Lauk, see *op. cit.*, who are now suggesting that this concept must be modernized and be made consistent with the new world that Germany, and others for that matter, has entered. Two key variables can be cited here: the unification of Germany and the growing internationalization of the world economy.

German economy evolved more by design than by chance. However, this may not be so!

First, any management process, whether it be that of a country or that of an individual business firm, is an iterative one. Only rarely can a manager, or even a group of managers, prescribe the one best plan of operations for the institution for which they are responsible. At the most basic level, this is due to the fact that there are far more environmental and operating variables that affect the management process than can be comprehensively reviewed and analyzed. Existential leaps of faith based on intuition are often necessary.

Second, there are always factors beyond the control of management. The German vocational education system, for example, appears to have been developed primarily as a mechanism for supporting the long-term work skills requirements of German industry. Based on this and other analyses, it has provided the highly skilled labor force that is the responsible basis for a substantial portion of German economic growth in the post-World War II period. Moreover, from the perspective of a *foreign observer*, it appears at first blush that the system was designed solely by industrialists with the goal of meeting their long-term needs. Or, in American jargon, that the industrial sector co-opted the educational sector in the absence of social forces to the contrary.

This, of course, is possible. Two of the key post-war mandates for the renascent German government were economic stability and economic growth. Since a stable, skills-oriented industrial structure is the *sine qua non* for such growth, it may be safely assumed that the *Bundesrepublik* recognized this imperative in its post-war plans for the German educational system. As an aside, Germany was not alone in this regard. Both the Dutch and the Japanese redesigned their educational systems after the end of World War II; the Dutch in recognition of the fact that the loss of their colonies required a new educational paradigm, and the Japanese for more obvious reasons.

But, to return to the German case, it needs to be asked whether the redesign of their vocational educational system was as focused as it now appears to be to the non-German observer, or whether the system evolved more "freely". The temptation here might well be to substitute the word "random" for freely but for the fact that much of the current vocational educational system is, in reality, a continuation of the guild (*Hanse*) tradition which for a long time has been a part of German economic system.[2] In other words, it needs to be asked whether German industry adapted itself to the realities of the vocational education system and consciously structured its operations around these realities, or whether German industry forced a solution to the educational question that was in its best interests.

An outsider has no way of knowing for sure. More aptly, there is no specific source of information that might allow for any final conclusions in this matter! Having said this, and in light of the country's history, it seems safe to conclude that the Germanic

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[2]The original meaning of the German term *Hanse* is guild, as in workingmen's guild. The *Hanse* quite possibly represents the first formal German effort to develop a cartel-like system to protect the income levels of the "small" business man, in particular, the artisan and craftsman. The American equivalent might well be the concept of parity as it was first applied to the agricultural sector in the U.S.

As an interesting aside, the *Hanse* is also credited with establishing trade routes and trading towns as far away as Russia and Scandinavia. As such, they may be regarded as the first of the multinational corporations.

system of social control has heavily shaped the structure, orientation and goals of an educational system; and that the system is overtly committed to contributing to the maintenance of an internationally-based competitive advantage.

To better explain this conclusion, some initial non-quantifiable observations are in order. These observations have to do with social risk, here defined as the price that a German youngster might well pay for his or her failure to perform well while in school. Based on discussions with German industrialists and academics, the risk quotient appears to be extremely high and, as such, merits a full discussion.

Social Risk

The overwhelming impression gained from a review of the German educational system is that it is unforgiving; that the early failure of a child to perform well in school serves to limit the future social and economic mobility of the individual in ways which would be regarded as antithetical to the more egalitarian approach to education taken in the U.S.

The word unforgiving is being used here because the young under-achiever in Germany is unlikely to receive a second chance educationally. Based on a description of the German educational system and its varied academic requirements, the child's early failure to conform to German educational standards leads to an early channeling both of their interests and aptitudes. In other words, the individual's future potential for economic and/or social mobility is, in general, locked in at an early age.[3]

Whether this perception about the German educational system is patently true or false is, of course, subject to debate. Behavioral impressions, particularly those of foreigners, are hard to prove. However, the heavy emphasis on vocational education in Germany, the comprehensive development of what we in the U.S. would term *special emphasis* schools, and the very limited number of young people who are allowed to go on to the University education, suggest that the system is highly focused in response to a well-defined set of national goals.[4]

In and of itself, this is not a negative. In the U.S., education has come to be regarded as preparation for the world of work. The growth in the U.S. college and university system since World War II attests to this, as do numerous surveys of parents and students as to their expectations of the benefits to their children of a college education. However, this last statement underscores the first of a number of differences between the German and the U.S. view of education.

For example, there is little focus in the U.S. on vocational education. Although there are a limited number of special purpose post-high school institutions that emphasize vocational training, these schools are limited in number. Moreover, for better or for worse, they are regarded as second-class

[3]In order to ameliorate the problem, in the late 1960s changes were made in the German educational system in order to provide a larger number of people with a so-called "second chance". An alternate schooling system called the *Gesamtschule* was established, patterned somewhat on the U.S. Grade 1 to Grade 12 model. The Germans are still arguing about the wisdom of this. See, for example, Lauk, *op. cit.*

[4]In 1991, according to data published by the German Federal Ministry of Education and Science, there were 1.8 million students in German colleges and universities pursuing either a master's or a doctoral degree. The equivalent U.S. figure is 1.9 million. This direct comparison is misleading, however, inasmuch as there is no German equivalent to the American bachelor's degree which is now the "educational objective" of some 12,000,000 young Americans.

institutions whose goals are inconsistent with the American emphasis on education as a route toward social and economic mobility.

The German system of vocational education, to the contrary, is far more comprehensive. Moreover, the system is used as a technique for ratifying the acquired vocational skills of the individual. Without the licensure gained from the successful completion of this specialized form of schooling, the young German may find it difficult, if in fact not impossible, to find a job that its both socially and economically acceptable. In this regard, the social risk built into the German system is far greater than is acceptable in the U.S. In the U.S. perspective, education is to be a broadening experience, heavily experiential in scope and content. In the German view, education is to be highly focused on the development of work skills and the inculcations of industrially acceptable norms of behavior.

Once again, there is nothing inherently negative about the German system. It is simply more structured than its U.S. counterpart and more overtly responsive to a set of national goals that place a substantial emphasis on social stability, industrial efficiency, and the maintenance of a technologically based comparative advantage.

It is safe to say here that this reflects a long-term German view of society and the role of the State in protecting and preserving that society. Within the context of this discussion it is irrelevant that this is antithetical to the American view of education and the outcomes expected of the U.S. system. None-the-less, as suggested by a large and growing number of British observers, there is much about the German system of vocational education that is not only highly commendatory but, more critically, adaptable to the British and American ethos.

The Governance System

Before delving into the structure of the German educational system, a brief note on the political organization of the Federal Republic of Germany is essential.

Until the recent unification of West and East Germany, the Federal Republic consisted of eleven states, or *Länder* as they are referred to in Germany. The responsibility for the overall governance of Germany is, according to their Basic Law (*Grundgesetz*), apportioned between the Federal Government and the *Länder* with this division of responsibilities affecting most aspects of German life. However, it is the individual *Länder* that have the predominant responsibility for the organization and operation of their respective educational systems.

The structure of the individual *Länder* in the educational system, however, is required to be consistent with the overall framework and goals established and mandated by the Federal Government. Moreover, the entire school system in Germany, from kindergarten through graduate studies, must conform to the standards established by the Federal Government. Most notable among these standards are what we in the U.S. now call "outcome assessments", that is to say, examinations testing the level of knowledge acquired by a student during his stay in a specific school or program. Unlike the U.S., these examinations are normatively based and hence used to indicate the level of success or failure attained by the individual student.

In order to maintain relatively equal educational and professional standards throughout the entire Federal Republic, a Permanent Conference of *Länder* Ministers

of Education and Cultural Affairs is maintained. The responsibilities of this group are to provide for comparability in the educational programs offered in each of the *Länder* and, in particular, to determine the skill levels to be acquired by students in the various educational institutions that make up the German system. Rephrased in American terms, this means that the school systems are required to establish and implement a comprehensive system of educational outcome measures which then form the basis for the eventual vocational and/or professional licensure of the young entrant into the German work force.

Consistent with the pervasive use of educational outcome assessments, education is compulsory in Germany starting at age six. As a general rule, twelve years of formal schooling are required, consisting of nine years of full-time and three years of part-time schooling. Although there are minor variations in school organization from one state to the next, the overall system is reasonably consistent throughout the German Federal Republic.

As in the U.S., schooling begins with kindergarten and is then followed on by a four-year common elementary school education. Also, as in the U.S., the elementary school provides the educational and social basis for grades 5 and 6 which follow. In Germany, however, grades 5 and 6 are referred to as the orientation years and are designed to prepare the student for the diversity of educational forms that characterize the next six to twelve years, or more, of the German educational system. Unlike the more free-flowing American system, decisions must be made by the end of the child's sixth year of schooling on the type of education he will then be allowed to pursue. For this purpose, there are three main streams: two vocational paths which lead to an early entry into the labor force; and an academic (university) path, with the student's entry into the work force delayed until he is at least 26 years old. Organizationally, then, after grade seven, the German educational system becomes highly specialized and, at least to an American, equally stratified along merit-based lines.

After passing a qualifying examination, the academically motivated and *qualified* students move on in year 7 to a *Gymnasium* or academic high school. If successful in their studies, they will remain in this system through grade 10. At grade 11, students then transfer, or are otherwise promoted into the *Gymnasiale Oberstufe*, where the academic course of study continues on for three years, or until the equivalent of grade 13 in the U.S. If successful in their studies, and if they successfully complete a rigorous exit examination, the students will then receive their *Abitur* diploma.

At that point in time, students are eligible to pursue university-level education at a school of their choice. For the most part, German universities maintain an open admissions policy subject only, in recent years, to budgetary constraints which have forced a limited number of students to defer the beginning of their university education for a year. As is true of <u>all</u> education in Germany, the Universities are free. The Federal Republic and the various states fund virtually all education in Germany. Not only are the German students not required to pay for tuition but, in many instances, the state will provide the indigent students with a living allowance in order to permit them to complete their university studies.

Vocational Education

For the vocationally-oriented student, there are two educational tracks to chose from: the *Hauptschule* and the *Realschule*. In

American terms, the *Hauptschule* and the *Realschule* are junior high school programs that emphasize vocational training. However, there are some subtle differences between each of these two systems.

The formal, solely school-based education of the *Hauptschule* student ends at the end of grade nine, whereas it continues on for a tenth year for the *Realschule* student. Except under very unusual circumstances, access to further formal education is foreclosed for the student who attends a *Hauptschule*. The *Realschule* student, to the contrary, has the option of pursuing certain forms of formal education beyond the exiting-level tenth grade and may, once again under special circumstances become qualified for an Abitur diploma. Quite critically, then, starting after grade six, the educational pyramid in Germany is narrowed rapidly leading, at least in the American view, to a highly stratified social system with education being one of the key elements creating and enforcing the stratification process.

However, the formal education of the young vocationally-oriented German students do not end upon their graduation from either the *Hauptschule* or *Realschule*. For other than university students, on-the-job vocational training of at least three years in duration is required.

Intriguingly enough from an American perspective, whereas the *Länder* are responsible for all formal education programs conducted within their respective geographical areas, the Federal Government retains the overall responsibility for the various vocational training programs. National standards are invoked with respect to the organization, operation and supervision of the numerous apprenticeship programs that are carried on jointly by industry and various labor organizations, and the Federal Republic.

Apprenticeship programs, of which there are more than 450, typically last for two to three years, and are managed by the business firm employing the young worker, by employers' associations, Chambers of Commerce or Trade, or all of these acting jointly.[5] To facilitate the overall process, special vocational training centers are maintained by the *Länder*. In all instances, however, contracts of vocational training are concluded between the "instructor", that is to say, the institution or organization providing the education, and the trainee or "apprentice". The process is governed formally by the Vocational Training Act and its various provisions.

The focus of all of these programs is on providing the young worker with the specialized skills and knowledge needed to attain competency and, where necessary, licensure within an occupation. Significantly, extremely rigorous post-apprenticeship training is available for those younger workers who are motivated to climb the many career ladders that exist in German industry. Once again, to assist in this process, the various German governments maintain highly sophisticated continuing education programs.

The Certification Process

The Vocational Training Act referred to earlier specifies the criteria which an organization must meet in order to qualify as a training facility. The regulations here extend to the type of training that the organization is allowed to offer, the number of

[5]The educational role of the Chambers of Commerce and Trade and the Chambers of the Crafts is discussed at length in Chapter 3.

trainees that it can accept at any one point in time and the type of facilities that are needed by the program.

Further, on-the-job training must be provided by specially qualified training personnel who, themselves, must have on-the-job experience as well as having successfully passed a series of qualifying exams. Under the terms of the *Regulations on the Qualifications of Training Personnel Act*, instructors are required to have successfully acquired sufficient theoretical background in their particular fields of expertise to teach these subjects to the apprentices. Indeed, from an American perspective, one of the unusual aspects of vocational training in Germany is the requirement that the apprentice receive adequate exposure to management-type studies, that is to say, some exposure to management, financial and accounting principles so that the students attain at least a basic understanding of the role and responsibilities assumed by a firm's managers. An apprenticeship training program, then, is a composite of vocational and scholastic education.

An American Perspective

From an American perspective, the emphasis placed on education within all spectrums of German society seems, if nothing else, to be "spectacular". Virtually all education is free for all Germans,[6] but the overall system is designed to provide the young German with the skills needed to attain and maintain or improve their social and economic position in the German community. Additionally, for those who educationally fail to achieve at an early age, there are adult education programs specifically designed to meet the needs of the older student.

From an industrial perspective, then, there are institutional mechanisms in place which allow for the continual up-grading of the skills for the German worker as part of a national program designed to insure the continuing productivity within the German industry. Whether a German would be as sanguine about the system as these remarks suggest is, of course, a matter beyond the scope of this study. There is, however, some evidence available that would suggest that the German polity is not completely satisfied with its educational system.

In general, and now like the U.S., there appears to be a growing dissatisfaction with the early channeling of young Germans into either an academic or a vocational track. The development of the *Gesamtschule*, a scholastic system structurally similar to that of the U.S.'s grades one through-twelve system, appears to be at least a partial response to the notion that the educational system may serve to create and maintain a more stratified society in Germany than is currently acceptable. As in many other highly industrialized societies, the social perspective of the blue collar job has changed; the younger person appears to want more of a job challenge and opportunity than that typically provided by the apprenticeship route required of all non-university-bound students.

Additionally, there is a feeling within the German academic community that the younger generation is not as committed to education as were its elders; that they do not perceive formal education as being as critical to their future as did their parents. Here, the Germans often point to the supposed rigors of the Japanese system as a

[6]There are a limited number of privately sponsored schools in Germany that charge tuition and, specifically, two universities whose prime focus is on graduate level business education. However, for those Germans either unable or unwilling to enter a privately owned and sponsored school, education is free.

way of suggesting that the decreasing concern with education in Germany may lead to the loss of many of the comparative advantages enjoyed by German industry world-wide, and *seriatim* to a reduction in the German standard of living.

To an American observer, these fears appear to be overstated. As discussed above, there is a distinctive element of social and business risk built into the German social and industrial system. From the perspective of industrial efficiency, the system appears to be well structured. Moreover, the system appears to recognize a reality to which the American educational system has remained silent; that not everyone can attain to a white collar professional or semi-professional position and that job-oriented education is essential if only as a technique for providing competence-based job security for the large number of persons for whom white collar jobs will not be available.

3

A SYSTEM OF INTERMEDIARIES

Introduction

From a control perspective, the German economy is structured in three levels. At the top is the government, at the bottom is industry, and in the middle is a system of organizations which, for the lack of a better name, we have termed as intermediaries. Although this term is normally used in the United States (U.S.) to refer to the banking community, to wit, financial intermediaries, as used here the term refers to the *Verbände*, or Associations, of which there are some 100 with representation in Bonn, the capital of Germany. As alluded to earlier, these Associations were created either under the aegis of the German Basic Law or subsequent legislation and regulation. Because they are public-law corporations, they are generally referred to as quasi-public corporations.[1] Irrespective of the name given to describe them, however, the more cogent fact is that the various Associations were chartered under German public law and assigned an intermediary function between government and industry. Moreover, lending weight to their description as intermediaries is the fact that the Associations have been provided with legislatively-based mandates that require them to fulfill the functions of governmental units; otherwise the responsibility in the U.S. of federal, state or local governments.

For example, the Chambers of Commerce and Trade which are the central focus of this chapter, bear heavy responsibility for the administration and management of vocational education and apprenticeship training programs. They are responsible for setting academic and vocational training standards that would otherwise be the domain of an independent school district or state government in the U.S. Additionally, the Chambers supervise the licensing of craftsman, assist the courts in commercial matters, and act in an official capacity as the "economic coordinator" for their respective geographical areas. Thus, the Associations have one foot in government and one foot in the private sector.

Organized labor also participates in the system of intermediaries and, once again, as a full partner in the Association system. The largest of these umbrella organizations is the Federation of German Trade Unions with more than 2,500,000 members drawn from 17 trade unions. As with all other labor-based federations or associations, these institutions have a dual function. On the one hand, they are responsible for negotiating wages and work conditions for their members. On the other hand, they are seen as a way of undercutting the traditional

[1]German law apparently distinguishes between public law and private law, with public law applicable to the organization and operation of both governmental and quasi-governmental bodies such as the German Chambers of Commerce and Trade and its sister institution, the German Chamber of the Crafts.

socialist argument that suggests that workers are being exploited. Given the fact of codetermination and the system of workers' councils found in German industry, this argument now has a hollow ring to it.[2]

To return to an earlier point, the Associations have one foot in government and one foot in the private sector. It is this bridging responsibility that is one of the unique characteristics of the German industrial organization. Although it is impossible to prove, it is this bridging of governmental and private sector insights, prerogatives and responsibilities that appears to be one of the factors imparting long-term strength to the German economy.

The Major Associations

Although more than 100 Associations are represented in Bonn, there are a smaller number that are especially influential; in particular, the *Bundesverband der Deutschen Industrie*, the Federation of German Industry, or the *BDI* as it is more commonly known. The *BDI* is in fact an umbrella Association that is, in turn, organized into 500 trade and regional Associations. Overall, the *BDI* represents some 80,000 firms with 8,000,000 employees. Their activities are quite similar to that of the American National Association of Manufacturers, in that the *BDI* is primarily concerned with broad economic policy. The *BDI*, perhaps the most powerful of the German *Verbände*, was established in 1895.

The Deutsche Industrie-und Handelstag (*DIHT*), or the German Industry and Trade Association, is the umbrella organization for the German Chambers of Commerce. The activities of the *DIHT* are geared to the needs of the small-to-medium-size business. Nationally, the *DIHT* is organized on a regional basis into 83 separate public law entities. The Chambers have a long history with roots that go as far back as the guilds of the various Hanseatic states; however, they were brought into existence in the post-Napoleonic period.

The Bundesvereinigung der Deutschen Arbeitgebervbände (*BDA*), or Federation of German Employers Associations, is responsible for coordinating the collective bargaining strategies of West German employers. More formally, the *BDA* administers a strike fund, provides its members with labor-related legal advice, and is heavily involved in the formation and implementation of the German social policy. Established in 1913, this Association has 44 branches throughout Germany and represents more than 80% of German employers.

The Deutsche Gewerkschaftsbund (*DGB*), or Federation of German Trade Unions, is an umbrella organization that joins together the activities of 17 trade unions organized along industry lines. *IG Metall*, the trade union of the metal workers founded in 1891, is the most powerful and largest union in the world with 2,500,000 members.

In addition to the above listed Associations, there is the *Deutsche Beamtenbund* (*DBB*) which is the trade union for the German civil service; the *Deutsche Angestelltengewerkschaft* (*DAG*) which represents white collar workers who do not have lifelong tenure and the *Deutsche Bauernverband* (*DBV*), the German Farmers Association, which represents the approximately 1,000,000 farmers now active in the German economy.

The Small Business Sector

With the possible exception of the unification period of the 1870s, German economic

[2]See Chapter 4 for a more complete discussion of these matters.

policies have traditionally placed heavy emphasis on the development and maintenance, in what the U.S. would call, the small business sector. As with so many things German, the emphasis is rooted both in German tradition and the "reality" that created many of these traditions.[3]

From a more structured perspective, the growth in Europe of large-scale firms using the U.S. model has always been constrained by the size and fractionated nature of the multitude of national markets that make up Europe. Because of political and other boundaries, corporate size in Europe, at least until the more recent growth of the extremely large-scale multinational corporation, has been inherently limited. Given this reality, the German industrial organization has relied more heavily on the output of its many small to medium-sized firms for its vitality than has the U.S.[4] In order to protect the vitality of this sector of the economy and enhance its growth potential, policies and procedures along with supporting institutions, have been developed and implemented by the German Federal government. As a key element in the German system of Associations, the German Chambers of Industry, Commerce, Trade and Crafts are among the more critical and sensitive of these institutions.[5]

The German Chambers, unlike their voluntary American counterparts, are quasi-public institutions chartered under public law. As public law entities they have been assigned very distinct responsibilities by the government. First, and perhaps most important of all, the Chambers are at the center of the technology diffusion process. (See Chapter VII for a more detailed discussion of this matter). Second, the various Chambers and their central body, the *Deutsche Industrie-und Handelstag* (*DIHT*), the Association for German Industry and Commerce, are actively involved in reviewing and advising on legislation pertinent to the business community at the local, regional and federal level. Last, the Chambers are assigned a central role in implementing and supervising key elements of the German vocational education system.

Because they have been assigned these otherwise public responsibilities, membership in a Chamber is required of all business firms in Germany. In this instance a business firm is defined as any legal entity or person that is required to pay any form of business taxes.[6] Consistent with the responsibilities assigned to them, under the terms of a law enacted in 1956, the Chambers have been granted the statutory powers

[3]See, "The Uses of Ideology", by George C. Lodge, Teaching Note 380-021, The Harvard Business School, Cambridge, 1982.

[4]This is a comparative statement or, better put, a matter of perception. The general perception of the U.S. economy is that it is structured around a limited number of very large-scale corporations, the Fortune 500 for example. These are the companies that are written up in the press, the companies that are used as the basis for much of the teaching done in schools of business administration, and the focus of virtually all of whatever the industrial focus of our fiscal and monetary policies may be. That the large-scale corporation is no longer a dominant force in our economy as measured by the percent of the labor force employed by these firms, is a factor which appears to be only minimally taken into account in the judicial and legislative process as it effects domestic business operations. In other words, the world of American industrial organization has changed substantially these past ten to fifteen years, but not the view of the world that they occupy.

[5]As with so many German institutions, the history of the present system of Chambers of Commerce and Trade can be traced back for at least six hundred years, in this instance, to the guild traditions of the old Hanseatic states. The more modern version of the Chamber, however, was created in 1861 when the business communities of the various German political entities recognized the need for an institution that could represent their collective interests in a non-unified Germany. As such, the first of the Chambers was a successor to the Prussian-based "Association of Merchants". This successor organization then became the forerunner of the present *Deutsche Industrie-und Handelstag (DIHT)*.

[6]The requirement that a business entity belong to and be a dues-paying member of a Chamber has been explicitly affirmed by the *Bundesverfassungsgericht*, or the Federal Constitutional Court. The justification for mandating member-

that they need to carry out their various functions. Moreover, this law guarantees them the ability to take independent actions when this appears necessary. Although, as public law bodies, the Chambers are subject to supervision by the relevant state Minister of Economics, the government can only intervene in their operations if it can be shown that a Chamber has broken a valid law.

Membership

In the early 1990s the various Chambers represented approximately 2,000,000 German business entities. Of these, some 625,000 were formally organized business firms. An additional 1,400,000 "small-scale" traders, as they are classified in Germany, were dues-paying members of one or another of the officially constituted Chambers.

Significantly, the foreign-based subsidiary or affiliates of German firms are also required to be members of a German Chamber. In keeping with this requirement, formally constituted German Chambers of Commerce have been organized in virtually all of those foreign countries or territories in which German firms do business. For example, the U.S.-based German-American Chamber of Commerce, with offices in six geographically dispersed offices in the U.S., has approximately 2,000 member firms.

Organization

Throughout Germany there are eighty-three separate Chambers of Commerce organized along local, regional, and ultimately national lines. The *DIHT* located in Bonn serves as the coordinating agency for the individual Chambers by gathering and evaluating the various findings, statements and opinions of its various members and relaying these opinions and statements to the German Parliament. Given the national-level responsibilities assigned to the *DIHT*, it has organized its 600 committee members into 17 standing committees and working parties, all of which are supported by a full-time professional staff.

Function

The 1956 law creating the modern version of the German Chambers of Commerce and Trade assigned the following formal functions to the Chambers:

- The Chambers are to represent members drawn from industry and commerce, along with service, transport, banking and insurance industries.
- The individual Chamber is to "show concern" for the economic interests of its particular district.
- The Chambers are to form partnerships with respect to economic policy, but must be committed to objectivity and neutrality in the positions that they adopt.
- They are to serve the interests of society as a whole.

In practice, the Chambers have not been held to the more formal aspects of the law that created them but have, instead, been

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ship is based on an analysis of the desired function of the Chambers: to provide consensus-based professional advice and consultation on key economic and political issues; to be actively involved in the development, organization and maintenance of vocational training programs; and to act as a vehicle for the transfer of technology throughout the German economy. According to law, the Chambers' over-riding responsibility is to take a balanced and long-term view of these various responsibilities and, if possible, to optimize them in accordance with long-term macroeconomic goals. "As such, the various Chambers are specifically responsible for forming public opinion among their members on an '*objective, judicious and equalizing basis*'."

encouraged to take on a broad range of activities. In addition to the three responsibilities discussed earlier, the Chambers provide expert witnesses and honorary panel members for the commercial courts, offer their own expert opinion on economic matters and assume major roles in their respective communities. Additionally, the Chambers take a pro-active role in the formation of public opinion on economic and legal issues. Locally, the Chambers formally express their views on municipal budgets, trade-tax matters, construction and urban development plans, infrastructural measures and, more recently, environmental questions.

From an American perspective, the Chambers, and the *DIHT* in particular, may properly be regarded as the lobbying arm of German industry. These groups actively influence legislation and other governmental actions. Here it is reasonable to assume that the German model of lobbying is little different from that found in the U.S. The marshalling of evidence for or against legislation or other governmental actions, the arguing out of positions, the mustering out of support for or against a governmental-level action are pro-typical lobbying activities, whether carried on in the U.S. or Germany.[7] In this regard, lobbying can be seen as a way of developing a two-way flow of information between government and specific elements of its constituencies, albeit through the medium of a quasi-public organization whose involvement in these matters is sanctioned by legislation.

Chambers of the Crafts and Trades

Specific attention is paid in Germany to the "crafts and trades" not only because of the long-standing guild and product quality traditions that this sector of the economy represents but, more importantly, because of its size and viability. There are some 600,000 owner-managed firms in this sector of the German economy. These firms, in turn, provide employment for more than 4,000,000 persons. Additionally, some 40% of these small firms maintained apprenticeship training programs with a total enrollment in 1991 of approximately 490,000 young people.

As with the Chambers of Commerce, membership in a *Handwerkskammer*, or Chamber of the Crafts[8] is mandatory. All independent craftsmen are required to be dues-paying members of a local or regional Chamber. As suggested above, some of the most significant duties assigned to the craft Chambers are the supervision of vocational training programs, the administration of an apprentice's final examination, and vocational advancement for persons employed either in the crafts or in the trades.

In keeping with German practice, these apprenticeship training programs are governed by the Regulations for the Crafts (*Handwerksordnung*) and the Vocational Training Act of 1969. In keeping with these laws, the crafts and trade apprentices receive practical training in the shop and theoretical education in a classroom setting, with these two systems of education complementing one another. Because of the small size of the typical crafts and trade firms, the various Chambers employ career counselors who are responsible for conducting on-site visits and assessments at both on-the-job and academic training sites.

[7]The comparison to American practice is not completely relevant. The Chambers act as lobbyist for the German industry as a whole, as opposed to the American practice of having lobbyists represent individual companies or individual trade associations. Although it is likely that the large-scale German firms employ lobbyists other than the Chambers and the *DIHT*, no reference to this practice was found.

[8]The word *Kammer* in German means Chamber, as in Chamber of Commerce.

Consistent with German social practices, the guidelines for training within the crafts are developed jointly by the Central Associations of the Craft and the Unions which represent a specific trade. These guidelines determine the definition of the trade itself, the duration of the training (not less than two nor more than three years) required to provide an apprentice with journeyman skills, the qualifications and knowledge needed to acquire these skills and the standards to be met in a mandatory exit examination. Although the various aspects of the program are locally administered, the content of the program and the qualifications of the trainers and educators used in these programs are subject to the approval of the Federal Minister of Economics.

Upon successful completion of an apprenticeship program and the passing of all required examinations, the young student receives a *Gesellen* certificate[9] which carries with it numerous career opportunities. A *Geselle* can work for the same or another company in the same line of business. Conversely, a *Geselle* may also find work in industry as a *Facharbeiter*, an *Angestellter*, or a *Beamter*. Additionally, a *Geselle* looking for a different form of career advancement may move on to a *Fachoberschule* and upon graduation become vocational training instructor or *Berufsschullehrer*.[10]

Alternatively, after three years on the job in a *Gesellen* position, the employees looking for career advancement within their chosen occupation can enroll in a program leading to a *Meister's* certificate.[11] The successful completion of this program, which normally takes seven to ten years, is a requirement for persons desiring either to open their own businesses,[12] to train future generations of apprentices, or a combination of the two. Because of the significant career opportunities normally available to a *Meister*, the program of instruction for a *Meister's* certificate includes classroom work in management-related topics such as economics, accounting and business law.

Historically, the base salary of a *Meister* employed in an industrial firm has been twice that of an entry level *Geselle*. It is this factor, and the prestige that accrues to a *Meister*, then, that motivates a significant number of upwardly mobile workers to enter into the long-term program that is required of the future *Meister*. Some 20,000 *Meister's* certificate are awarded annually in Germany, suggesting an overall enrollment in these training programs of some 150,000 to 200,000 persons.

Importance of the Crafts for Society

The substantial support and visibility provided the crafts and trades is based on the German commitment to a *social market economy*. From the German perspective, this is a prototypically free-market economy which recognizes the need for industry of

[9]The term *Geselle* translates loosely into journeyman.

[10]*Arbeiter* best translates as worker, whereas *Angestellter* translates as employee. The difference here is important inasmuch as the terms also connote relative rank within an organization. For example, a fully qualified civil servant carries the title of *Beamter* but there are also *Arbeiter* and *Angestellte* working for the government, albeit at lower wage scales and with few, if any, of the many benefits that a *Beamter* accrues.

The word *Fachoberschule* can best be translated as meaning technical institute, and normally denotes a college-level engineering program.

[11]*Meister* means master, as in a master workman. This title, though important in Germany, should not be confused with the American university-based Masters degree.

[12]German business law apparently requires that persons starting specific types of business operations be qualified to do so as measured by a *Meister's* certificate. This requirement is seen as guaranteeing to the public the quality of the product or service being provided and, parenthetically, as a way of protecting the public against various forms of business fraud. The requirement, if taken as an extreme, can also be seen as a way of legitimately limiting entry into various businesses and thus limiting competition in specific sectors of the German economy.

all types to contribute to the national well-being. In keeping with the tripartite model of economic management developed in Germany, government is to contribute by supporting the physical, educational and social infrastructure needed by industry. Industry is expected to contribute to these outcomes by being directly responsive to the income and security needs of the German worker and the community in which the company is located. The Chambers, and other quasi-public organizations, are to act as the service-providing intermediary between government and industry. This approach to economic management follows on from the now current German belief that one of the requirements of a stable and productive society is a pluralistic economic and social structure. In this view, the overall diversity of the crafts and the ability of an individual to benefit substantially from a high degree of personal initiative is seen as a significant plus. Additionally, the personal relationship between the employer and the employee in a small firm is regarded as a stabilizing factor, that is to say, as being instrumental in contributing to low labor turnover rates and, hence, to social stability. Finally, because of the skills attained and the value attached to a *Meister's* certificate, employment in the crafts and trades is seen as a viable route to self-employment or, alternatively, the starting of a new business.

German Chambers Abroad

Looking at all of the developed industrial nations of the world, Germany is by far the most export-dependent. Moreover, unlike either the U.S. or Japan, the large-scale German corporation does not dominate the foreign market for German goods. Rather this is the domain of the *Mittelstand* firm.

Unlike the situation that obtains in both the U.S. and Japan, Germany's dependence on foreign markets has been a long-standing one. In the mid to late 1800s, Germany was forced to develop and maintain knowledge-based export-oriented industries, if only as an offset to their lack of colonies. The Versailles Treaty that concluded World War I also forced the Germans to maintain a strong focus on foreign markets by the requirement of substantial reparations payments to many of those nations that suffered damages during the war. Despite the relatively small amount of cash reparation payments demanded of Germany in the post-World War II period, Germany not only maintained its emphasis on the development and maintenance of export-oriented businesses but increased the size and scope of these markets.[13] It did so by relying on three strategies. The first was direct exports from Germany. The second was the wide-ranging establishment of a series of joint venture and/or licensing agreements with a large number of foreign manufacturers. The last strategy was direct investment in foreign markets.

Here, once again, the strategy pursued by the Germans was to a great degree different in scope and content from that followed by the other highly industrialized nations. Foreign investments were undertaken not only by large-scale companies but also by a significant number of smaller firms. Today there are more than 2,000 German-owned firms in the U.S., a significant portion of which are owned by small-to-medium-size German firms. Moreover, this investment pattern is replicated in a number of

[13]German reparations after World War II were of an "in-kind" nature, that is to say, the loss of millions of dollars worth of patent rights to German developed and marketed technologies. With the possible exception of the Russians who repatriated German industrial facilities to the Soviet Union, the payments demanded of the Germans were not of the size and scope demanded by the victorious nations after World War I.

other countries and territories around the world. German industry, thus, is highly globalized and, as the evidence would suggest, perhaps to a far greater degree than that of any other nation.[14] This number is, of course, independent of the significant number of joint ventures and/or licensing agreements which have been promoted by German industry.

Given the substantial presence abroad of German firms, the Federal Republic of Germany maintains formal economic relations with a large number of foreign countries. However, it does this consistent with its domestic practices, that is to say, a tripartite organization. As such, there are three major advisory and regulatory entities involved in overseeing Germany's diverse foreign interests; the German Embassies and Consulates, the Federal Office for Foreign Trade Information (*Bundesstelle für Aussenhandelsinformationen, BfAI*), and the German Chambers Abroad.

In those countries where Germany has by an official representation such as an Embassy or Consulate, a German Chamber and a *BfAI*-agent, there is a separation of responsibilities between these three institutions. The Embassies and Consulates work mainly for the Federal Government and other public authorities. The Federal Office for Foreign Trade Information offers a broad range of foreign trade-related information to German-based firms. Questions regarding any commercial activity in the host country, however, are referred to the foreign-based Chamber which then provides services and advice to the individual foreign-trade-oriented company. These information, counseling, and mediating services, however, can be used by both members and nonmembers, albeit for a fee.

Organization

Foreign-based German Chambers of Commerce are incorporated in the host country as privately-owned institutions. Moreover, they are a voluntary union of private persons, enterprises, and organizations both from the Federal Republic of Germany along with members drawn from the host country. As with the German-based Chambers, there is a governing board with its various committees. The day-to-day management of the various Chambers, however, is delegated to a German executive and his staff.

Functions

The services offered by foreign-based Chambers follows the general pattern set by their domestically-based counterparts, for example;

- Initiating business connections between buyers and sellers
- Counselling on distribution channels and sales strategies
- Providing market studies, market information and service packages
- Providing support for setting up subsidiaries, for making locality decisions, for joint ventures and licensing.
- Helping in matters of receiving payments, for example, through collection procedures. They also help to obtain confidential information about

[14]Statistically, U.S.-based industry is by far the dominant factor in the system of multinational corporations that now operates world-wide. However, the number of U.S. firms involved in foreign operations is small; this is the domain of the large-scale American corporation. Germany is different in that the participation in foreign markets is spread over a larger number of firms. For example, more than 1,300 German firms have subsidiaries in the U.S., all of which are joined together by the various elements of the German-American Chamber of Commerce. World-wide, the Chambers abroad have more than 42,000 members, one-third of which are German. Thus, there are more than 14,000 German-owned subsidiaries that conduct international if not, indeed, world-wide operations.

companies and in the settlement of disputes.

- Establishing contacts with associations, authorities, experts, lawyers, as well as with economic and tax advisers.
- Organizing information and fair events and offering help if a company wants to be represented at such a fair.
- Publishing Chamber magazines, memos, pamphlets, and brochures on legal and economic matters.

In sum, the foreign-based Chambers act as the data gathering and data analysis agency for German firms operating abroad. They are of particular value in this respect to the small to medium-sized German firm that does not otherwise have the resources to do the type of detailed planning that is essential to determining the potential for its products and/or services in a foreign country.

Because of the importance of the role assigned to foreign-based Chambers, those Chambers that cannot be self-sustaining financially are subsidized by the Association of German Chambers of Commerce and Industry (*DIHT*) and by the Federal Ministry of Economics.[15]

[15]Once it is formally recognized by the *DIHT*, a German Chamber abroad is supported, at least in part, by the German government. Today, there are forty-four German Chambers abroad, fifteen in Europe, four in North America, thirteen in Latin America, three in Africa, seven in Asia, and one in Australia. Moreover, the *DIHT* maintains German Trade Representatives in Hong Kong, Nigeria, Poland, Moscow, St. Petersburg, Saudi-Arabia, Taiwan, Czech Republic, Turkey and Kiev. Thus, the network of Chambers and Trade representatives cover all five continents and an area which encompasses approximately 90% of German exports and 75% of German imports. These countries also account for 90% of German foreign investment and 97.5% of the foreign investments in Germany.

4

GERMAN CORPORATE ORGANIZATION

Introduction

In order to better understand the German industrial organization, a number of possibly contentious issues need to be raised. Perhaps the most central of these is the question of corporate social responsibility; to whom is the corporation responsible, and why? The issue is an especially contentious one in the United States (U.S.). First, and perhaps foremost, is the American belief in a *laissez faire* approach to corporate governance; that government is not to interfere in the process. Whether this is true or not is, for the moment, irrelevant. The fact is that the belief is widely held; although there are those who would maintain that there is far more government interference in the *governance process* than the nation cares to admit.

Second, Americans adhere to the Lockeian notion of private property and the rights of ownership that private property conveys. Because the corporation is the private property of the stockholders, the American view is that it should be managed primarily, if not solely, for the stockholders' benefit. This belief has been enshrined in American financial theories dealing with the maximization of stockholder wealth. This latter belief gives rise to the issue of "exclusivity": who should and who should not participate in the corporate governance process and the benefits that this process provides?

Third, despite the fact that the corporation is a creation of the state, Americans tend to believe that the "business of business is business". This is a rather redundant way of saying that the corporate sector should not be expected to overtly fulfill any of the diverse requirements of government other than, possibly, paying its taxes on time. Of especial note here is the ambivalence surrounding the view of who is responsible for job creation in a modern economy. Is it industry by itself? Is it the government through stimulative policies? Or is it a joint business/government responsibility whose parameters are better left undefined and potentially obscured?

Last, there is the American view of management and labor. Reflecting the concept of exclusivity alluded to above, Americans generally believe that management and labor are separate elements with rigidly defined boundaries that should not be crossed. Most pointedly, labor is not to interfere with management's prerogatives, and particularly its right to manage the firm consistent with its view of the corporation's needs.

These factors, most of which reflect American cultural and ideological perspectives, are among those that underpin American concepts of industrial structure and behavior. For the most part, these concepts have helped to create an immensely successful American industrial base. This base, in turn, has contributed significantly to the standard of living enjoyed by most Americans. However, in light of the loss of com-

petitiveness (since the mid-1970s within many elements of the U.S. industrial base and the continuing globalization of many industries) today a broader-based analysis of economic and industrial structures is relevant. This follows from the fact that today the U.S. is being out-competed by other nations in many industrial and product areas.[1]

In a number of instances, a purely economic or financial explanation for this outcome is inadequate, e.g., attributing the failure to become fully competitive to factors such as high interest or wage rates. As evidenced by the relative vibrancy of the German economy through 1991, neither high wage rates nor high interest rates are necessarily the cause of competitive decline but rather two of many factors that can affect the overall competitive position of a nation's industry. As such, it may be worthwhile to hypothesize that quantitatively-based, economically-oriented analyses of competitive problems may hide more answers than they otherwise reveal, thus saying that more broad-gauged analyses of economic and industrial realities may be needed: analyses which contemplate social as well as political factors.

To this end, Albert and others have argued,[2] that capitalism is not an intellectual or conceptual monolith but rather that there are many types and forms of capitalism. Albert, in particular, has suggested that there are two major variations. The first of these is what he refers to as the Anglo-Saxon model and is exemplified by the British and American systems. The second of these he refers to as the Alpine model. Germany and Japan are the exemplars here. Notwithstanding the difference in labels, both systems are committed to the principle of the private ownership of capital and an equal commitment to the preservation of a free-market economy.

However, these two key economic beliefs notwithstanding, the two models diverge. The first of the major divergences is found in contrasting perspectives on the rights and benefits of the private ownership of property. By law and tradition, the Anglo-Saxon model treats the stockholder as its primary stakeholder. The Alpine model differs substantially in this regard. A *community* of stakeholders is defined, each of whom is entitled to participate in the management of the corporation and the benefits that its successful operation provides. For example, the right of the worker to a job is affirmed in each of these societies; by law in Germany and by custom in Japan.

Moreover, in Japan and Germany the individual corporation is not seen as an entity unto itself but rather as one strand in the overall fabric of industrial organization. The right, if not indeed the obligation of the banking community and other financial intermediaries to take an active part in the management of a firm is affirmed. In this latter instance, this affirmation is provided more by tradition than by law. Further, the cross-ownership of corporate equity interests is not only encouraged but is also accepted as a rational technique for providing industry, with

[1]This statement is true, the recovery of the late 1993s notwithstanding. The U.S. still suffers from a negative trade balance. The Japanese still control almost 23% of the U.S. market for automobiles, to say nothing of its 68% share of the market for consumer electronics. Although Germany is still suffering through a recessionary period with the Japanese economy moving "sidewards", the fact remains that U.S. industry is not as of yet as competitive as it must be if it is to correct its trade imbalance and, parenthetically, increase the levels of employment in the U.S. economy. That the two major competitors of the U.S. are now suffering does not mean that the U.S. economy has fully restored itself.

[2]*Op. cit.*

the capital base needed for successful operations as well as with the market intelligence and skills needed to compete successfully in the marketplace. In keeping with this, business and financial risks are spread over a larger base.

In other words, the economy of each of the two nations is organized along consensual or communitarian lines; the various stakeholder groups are to have a relevant role in the management of the corporation and are to derive benefits from this relationship.

Based on this and other analyses, it has been concluded that the more broadly-based German-Japanese view of the stakeholder relationship is one of the major variables underlying the relative success of the German and Japanese economies since World War II. Although the roots of this behavior reflect different national traditions, the outcome of a consensual approach to decision-making appears to be the same; enhanced benefits to the society in which the corporation is based. In keeping with this, key elements of the German corporate structure and governance process are discussed in subsequent sections of this chapter.

Corporate Legal Form

As in the U.S., German law allows for the ownership of businesses to be structured in a multitude of forms: as proprietorships, partnerships and corporations, as well as in the more recent development of various forms of limited partnerships and joint ventures. In this regard, both German and American law have been responsive to economic needs. And, in both instances, because of the limits on stockholder liability that is its hallmark, the more common legal form of business organization is the corporation.

Unlike the U.S., however, there are two forms of corporate organization in Germany; the *Aktiengesellschaft*, or the "*AG*" as it is commonly referred to, and the *Gesellschaft mit beschränkter Haftung*, or "*GmbH*." Both of these legal forms are representative of independent legal entities (persons), with their ownership evidenced by shares of stock. As with their American counterparts, the stockholders are not liable for their company's obligations beyond the required paid-in-capital contribution, subject only to the caveat that the actual funds paid into the corporation are consistent with the initial funding levels set forth in the corporation's by-laws. Here, there are significant technical differences in the legal requirements attendant to the formation of a corporation in each of the two countries, but these differences do not appear to impact on corporate operations except, possibly, as the legal structure of the German corporation allows for greater access to debt capital than does the American structure.

However, from a practical perspective, there is little or no operational difference between an *AG* and a *GmbH*. The primary difference between these two key terms is that the shares of an *AG* can be traded publicly, whereas the shares of the *GmbH* can not. In this regard, the *AG* must be regarded as the equivalent of a "publicly-owned" and the *GmbH* as the equivalent of a "privately-owned" U.S. corporation.

In keeping with normal economic patterns, most large German firms are organized as *AGs*. However, when compared to the U.S., Great Britain or Japan, their absolute number is relatively limited. At present there are only 2,000 AGs in Germany. In turn, the bulk of German industry has adopted the *GmbH* organizational format. Today there are more than 300,000 *GmbHs*, the major proportion of which are small-to-medium

sized firms with up to 500 employees and sales up to $300 to $400 million annually. Notwithstanding their size, however, it is this latter group of privately owned firms that account for 70% of Germany's export base.[3] Thus, they are an extremely vital part of the economy and, in many instances, far more influential collectively than the large-scale business sector.

Consistent with the tradition of the private ownership of businesses in Germany, less than 450 of the 2,000 *AGs* have their shares registered for trading on the various German stock exchanges. This suggests either that their owners are not concerned with actively trading their shares or that trading can take place outside the exchange system when the need arises. Or, alternatively, that the typical *AG* has sufficient access to capital when needed so as to nullify the need for an exchange listing!

Here, the fact of Germany's universal banking system is central. Since the banking system can act both as a commercial banker and as an underwriter, and since there is a long-standing "house bank" tradition in Germany, the legal and administrative problems attendant to raising new capital are inherently less complex and tedious than in the U.S. Moreover, since German banks are not only allowed, but actively encouraged to take equity positions within non-financial corporate customers, it is more than likely that any well-run *AG*, whether publicly traded or not, will have sufficient access to capital to meet any foreseeable business need. In this regard, the integration of the German banking system and its corporate sector is far different from the *arms-length* relationship mandated in the U.S. Unlike the U.S., Germany has no apparent fear of an undue concentration of economic power in too few hands. However, from at least one perspective, the primary role granted to the *Mittelstand* can be seen as a politically practical offset to the potential power of the banking system *cum* large-scale industrial sector.

Corporate Governance

Consistent with the communitarian or consensus-oriented ideology that Germany has adopted in the last 100 years, one of the key notes of the corporate governance system in Germany is that of *Mitbestimmung*, or worker participation in the management of the business firm.[4] Although regarded as a post-World War II creation, the concept of worker participation has roots in the economic reforms instituted by Bismarck in the 1860s and 1870s. Despite the fact that these reforms were used then as a technique for diffusing the potential growth of a democratically-oriented Germany, they have since become an integral part of the *social market economy* that is regarded as the underlying basis for the rapid post-World War II growth of the German economy. Today, the worker participation system serves to forge a critical working link between management and labor. In the opinion of many observers, the fact of *Mitbestimmung* has been one of the key behavioral factors contributing to the continually improving rates of productivity found in the German economy before the costs of unification, coupled with the worst recession since World War II, caused a significant drop in productivity in Germany.

[3]In early 1994 it was reported in the U.S. popular business press that the comparative figure for the U.S. is 10%.

[4]The term *Mitbestimmung* can be translated either as co-determination or worker participation, depending on the author and the context in which the expression is used. Far more important that an acurate translation of the word into English is the fact of management-labor cooperation that the term describes. By law, one-third of the Board of Directors in a German firm with more than 500 but less than 2,000 employees are elected by the firm's employees. In firms with more than 2,000 employees, the percentage is increased to fifty percent.

In order to better understand *Mitbestimmung* and the consensus-oriented corporate system that it serves to promote, three legally mandated elements of the corporate governance process in Germany need to be described. These are *Aufsichtsrat*, *Vorstand*, and *Betriebsrat*. In addition to these three organizations, firms with more than 100 employees must also convene an "economic committee." This latter group does not have codetermination rights but does, as discussed later, have extensive rights to information.

Aufsichtsrat

When compared to other models of corporate governance, the German model is unique in that the overall governance of the corporation is separated in law and practice from the management process. This is accomplished through the establishment of an *Aufsichtsrat*, or advisory board, and a *Vorstand*, or management board.

The *Aufsichtsrat* is the German equivalent of the American Board of Directors. However, there are significant legal and operational differences between the German and the American version. First, all AGs are required to have Advisory Boards; as are all *GmbH*s with more than 500 employees. Despite this, an Advisory Board may be established by a corporation, if the stockholders request that it be done. As noted elsewhere, labor is represented on the Advisory Board, with proportional representation granted to the various categories or classifications of the firm's employees.[5]

Third, unlike the customary corporate governance process that obtains in the U.S., an individual cannot be both a member of a corporation's *Aufsichtsrat* and its *Vorstand*. By law, the roles and responsibilities of these two senior corporate groups are distinctively defined as is their legal and *de facto* separation. It is this separation of corporate authority that serves to not only limit the power of the German Chief Executive Officer but, more actively, to promote the need for a consensual approach to the senior-level decision-making process.

Fourth, and perhaps most important, the *Aufsichtsrat* is responsible for determining corporate policy and seeing that it is implemented, like its American counterpart. More pointedly, it is also responsible for recruiting and appointing the firm's senior managers, the *Vorstand*.[6] Thus, the *Aufsichtsrat* not only supervises the firm's senior managers, but it also determines their salaries, the terms of their employment with the firm, and other relevant management details. These latter matters are not left to the Chief Executive Officer, as is often done in the U.S. and especially in those instances where a firm's executives may be simultaneously members of the Board of Directors and the firm's senior-level operating executives.

Finally, because the *Aufsichtsrat* has effective authority over the *Vorstand*, it can modify the actions of the management group, whenever this action appears necessary. Thus, this uniquely German two-tiered corporate governance system provides a mechanism for maintaining management's sensitivity to the needs of the community at large.

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[5]The employee representation on the supervisory board is done on a proportional basis with representatives drawn from the executive staff, from the salaried staff, and from the hourly paid work force. Additionally, some members of the supervisory board may be chosen by the unions representing workers in the firm. These employee representatives, as discussed in the section on worker's councils, have guaranteed access to the type of information and analyses needed for the proper prosecution of their board-level responsibilities.

[6]Although there are no laws which talk to the matter, accepted practice in Germany apparently dictates that the members of the *Vorstand* be employed under the terms of a contract with a five year life.

Vorstand

The Vorstand, or the management board, is the designation given to the firm's senior executive group. Typically, this senior-level group consists of the corporation's five or six managing directors who, individually and collectively, are responsible for the day-to-day management of the corporation's affairs. In keeping with the German norm of decentralized authority, each member of the *Vorstand* normally has direct responsibility for the management of a specific corporate activity.

Although one member of the *Vorstand* is normally designated as the group's chairman, he tends to be *primus inter pares*. In general, the German approach to corporate leadership assiduously avoids the somewhat peculiarly American practice of designating a chief executive officer in whom all final decision-making authority is vested. Not only would an all-powerful Chief Executive be inconsistent with the spirit of *Mitbestimmung*, and the role in corporate governance delegated by law to the *Aufsichtsrat*, but such a grant of authority to a senior executive would also be seen as inconsistent with the German desire for a consensus-oriented decision making process. Indeed, the commitment to a consensual process is so imbedded in current German behavior that it is possible to identify German corporations in which there are two chief executive officers of equal authority; one responsible for technical matters, and the other for strictly management matters.[7]

Here a brief aside seems warranted. Unlike the U.S. with its preponderance of Masters in Business Administration programs, an advanced degree in engineering or science is still regarded as the more desirable preparation for a German business career.[8] This, in turn, translates into a heavy emphasis in the German firm on the production process, *per se*, such that the wisdom of an "*executive office of the president*", in which both technology and purely business matters receive equal attention, seems evident.[9]

Betriebsrat

The last organizational unit unique to the German corporation is that of *Betriebsrat*, or works council. German law requires that a works council be established in firms employing five or more people, with members of the works council elected by the firm's employees. Furthermore, the law specifies in detail the rights and responsibilities of these councils.

Works councils are charged with the responsibility for negotiating working standards and conditions, grievances and other labor- related issues as they arise within the individual business site. Although the primary role of the works council is to protect the interests of the labor force and to give

[7]Interestingly enough, this form of top management has found its way even into German governmental management structure. The German Federal Office for Defense Technology and Procurement, subordinate to the German Federal Ministry of Defense is headed by a triumvirate: the president (*primus inter pares*), a vice president for technology and a vice president for "economics".

[8]As of 1994, there are only a minimal number of German college students enrolled in either economics or management science programs. Moreover, most so-called business courses are taught by members of the sociology faculties of those German universities that offer programs of this type. With possibly two exceptions, the University of Koblenz and a private university located in the Frankfurt-Wiesbaden corridor, there are very few German faculties of business administration designated as such. At least up until recently, the young German student looking to acquire the type of generalist education that might later lead to a career in business would most typically pursue the study of law.

[9]The correctness of this emphasis is shared by Lester Thurow of the Massachusetts Institute of Technology who believes that production process management - and not product technology - will be the decisive factor in gaining long-term competitive advantages in global markets.

it a voice in those decisions which affect its working conditions, one of the key roles that has evolved out of its existence is its responsibility for working constructively with management in the adoption of technological changes in the work place. In this regard, plant-level works councils have been a key instrument in helping both management and labor to develop and/or adopt new technologies as they become available to German industry.[10] As such, they not only have had a key role in maintaining labor peace within the overall economy, but they have been an active force in promoting the continued modernization and upgrading of German process technology. Notwithstanding their role in the individual plant, the German Union movement has maintained its overall strength in the German economy and is a vital force in helping to arrive at nationally-based economic strategies and policies.

Note: As discussed earlier, German industry is highly involved in the nation's vocational education and apprenticeship system. For a plant to be able to offer an apprenticeship training program, it must have employees qualified to instruct apprentices and manage the program, that is to say, employees licensed at the *Meister*, or master workman, level. Given this requirement and in keeping with the responsibilities assigned by law to the *Betriebsrat*, the work force jointly bears with management the responsibility for insuring the continual development of a highly skilled labor force. Unlike the situation that obtains in the U.S., the responsibility is not solely management's. Moreover, this shared responsibility helps to align the interests of labor with those of management in a highly constructive manner.[11] In other words, the responsibility for adapting to technological change is seen as a joint management-labor responsibility in which the works council has a key role.

The Corporation as Community

Although *Mitbestimmung*, or worker codetermination, was initially designed as a technique for protecting labor's long term interests in stable employment, the two-tiered governance system has also served to protect the interests of a far broader community than was initially anticipated.

As argued by some, this system with its emphasis on "inclusivity" is far more responsive to the economic and social requirements of a modern, technologically-based industrial system.[12] By providing a mechanism for voicing the needs of all of the various constituents of the corporate sector, and reaching an appropriate bargain between these competing groups, it encourages an emphasis on planning for the future. Last but not least, it recognizes the substantial investment in human capital that is the *sine qua non* of the modern, large-scale business firm.

In spite of this, some foreign observers have questioned the true effectiveness of the system by noting that many an *Aufsichtsrat*

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[10]See Henzler, *op. cit.*

[11]For an elaboration on this matter see Prais, S.J., *"The Vocational Qualifications of the Labour Force in Great Britain and Germany"*, National Institute of Economic and Social Research, London, November 1981.

[12]See Henzler, *op. cit.* This point will no doubt be argued for many years into the future depending on the future successes or failures of the economies of the U.S., Japan and, in particular, Germany. As with all of these matters, there are two trains of thought. The first of these two says that the issue of inclusivity is a non-starter, that the American *status quo* in this regard is efficient and equitable. The second train of thought begins with a discussion of the future needs for workers capable of performing well in knowledge-based industries and states that these industries will require highly educated personnel for whom a sense of inclusivity will be both a political as well as a cultural mandate.

meet only two or three times a year, and, therefore, may have limited knowledge only of the firm's activities.[13] Here, comparisons have been made to the limited role assumed by the Board of Directors of many major American corporations and the somewhat pronounced tendency of some of these boards to support the management group from whom a number of their members are drawn. To this potential criticism of the structure and operations of the German board, there is no direct rebuttal. The issue appears to have received only minimal attention by the German academic community and does not appear to be a matter of concern to the corporate community.

Before leaving the subject, it is worthwhile to note that the labor representatives bring an additional resource to the *Aufsichtsrat's* deliberations. Experience has shown that the employee representatives on the board have significant knowledge about the corporation's activities, and that they are able to contribute to informed judgments on the effectiveness with which the firm is being managed. This is not to suggest that any individual employee representative on the *Aufsichtsrat* has the type of comprehensive view of company operations that a member of the *Vorstand* is required to have but rather that, as a collective, employee representatives can be the source of critical insights into corporate operations. This wage-earner's perspective of the firm's day-to-day operations is unknown in the typical American corporation, although there is now some evidence suggesting that many small-to mid-size firms are adopting an Americanize version of co-determination, or worker's participation. [14]

The Economics Committee

Although the Economics Committee, unlike the *Betriebsrat* has no official power base within the corporate structure, it is an essential element of the corporate governance system. By law, the German corporation, in this instance firms with 100 or more employees, is required to keep its employees fully informed on the status of the business. In order to accomplish this, economic committees are formed and granted routine access to substantial data, including information on:

- The economic and financial condition of the firm
- The production and sales situation
- The investment program
- Rationalization projects and closures
- Organizational changes, including mergers
- Proposed changes in methods

Thus the rank and file employee is, or at least should be fully informed on the corporation's financial and operating condition and its future plans. By recognizing their stake in the firm and the actions needed to protect both the firm and their jobs, employees are better able to contribute to the efficient management of the organization.

The *mittelständische Industrie*

The German economy is unique in yet another respect. It is the only major industrialized nation whose economy is heavily dominated by the small-to medium-sized firm, or the *Mittelstand*, as it is referred to in Germany. In a recent "Business Week"

[13]For a discussion of this matter see Edwards and Fischer, *Banks, Finance and Investment in West Germany Since 1970*, Centre for Economic Policy Research, London, 1990.

[14]For an interesting perspective on this matter, see Chisman, Forrest P., *The Missing Link: Workplace Education in* Small *Business*. The Southport Institute for Policy Analysis, Washington, DC, 1992.

listing of the world's 1,000 largest financial and non-financial corporations, there were only 39 German entries. By comparison, more than 300 U.S. and Japanese firms were listed. More significantly, the *Mittelstand* accounts for more than 70% of Germany's export base. That makes this group of small companies the key contributors to Germany's position as one of the world's largest exporting nation.[15] By comparison, it is estimated that equivalently-sized firms in the U.S. account for no more than 10% of U.S. exports.

In order to understand the economic strength of the German *Mittelstand*, a number of historical, economic, political and cultural factors need to be properly understood. Key among them is the long-standing German tradition of family-owned businesses. Whereas England may well be classified as a "nation of shopkeepers", Germany might well be termed a nation of small, family-owned businesses. This tradition dates back to the 12th century *Hanse*, or guild, with its apprenticeship/journeyman tradition that is alive in Germany even today.

Further, the more modern *Mittelstand* is distinguished by a capital-intensive, technology-oriented managerial philosophy that places a heavy emphasis on a highly skilled and highly paid work force.[16] Moreover, as discussed earlier, the *Mittelstand* maintains a strong, almost pervasive relationship with the German educational system as the source of its apprentices. The overall contribution of the *Mittelstand* to the well-being of the German economy has been, and continues to be, substantial. One is never sure whether this was a planned or a fortuitous outcome. However, it is one of the outcomes of a number of economic, political and cultural realities.

German Economic Development

As a final note on German corporate organization, it needs to be remembered that Germany was the last of the major nations of the world to industrialize. This process began in the mid to late 1800s, or considerably later than the Industrial Revolution in England and in other key nations. Thus, it is possible that Germany may not have had sufficient time in which to organize its economy around the large-scale firm to the extent of the U.S. and Great Britain. That, plus the fact that the Germans have never developed an active in-country market for equity issues, may have served to underline both the importance and predominance in the German economy of the smaller firm. Of equal importance may be the German government's post-World War II policy of not encouraging the growth of large-scale firms that dominated the economic and political scene during the Wilhelmine and Nazi eras.

Adding substantial weight to this history is the fact that alone among the major European nations, Germany was not truly a colonial power. Because it had no colonial system upon which it could rely for the import of cheap raw materials and as a protected market for high value-added exports, Germany was compelled to become an export-oriented country if it wished to

[15]Hermann Simon in "Lessons from Germany's Mid-Size Giants", *Harvard Business Review* Mar-Apr 1992, provides a list of 25 German medium-sized firms that occupy 1st rank in their market position world-wide. None of the names on the list are apt to be easily recognized except, possibly, by industry professionals. The list of industries in which these firms maintain a dominant position is, none-the-less, both interesting and informative. For example: fish processing machines, bookbinding textiles, honing machines, offset printing machines, cigarette machines, food for tropical fish, chain saws, front-operated lathes, and model railways, among others. As is obvious, none of these industries are massive, but they are, on a world-wide basis, significant enough to fuel and maintain German economic growth.

[16]See Henzler and Simon, *op. cit.*

maintain its political power. Also, and of more than historical importance, it had to seek its customers from among the more developed nations. In modern business language, this required a focus on the development of knowledge-based, high technology and high value-added products that would best use the nation's resources, and in particular a highly educated work force. Corporate strategy-wise, this meant the development of niche-oriented products, that is to say, the identification and penetration of otherwise hidden but highly profitable market places. This concentration on niche markets is one of the hallmarks of current corporate strategy practices in Germany, and especially among the large population of small-to- medium-size companies.

Here, history has played some strange games since the reparation payments demanded of Germany by World War I's Versailles Treaty, Germany was also forced to concentrate on the development of a high value-added, export based economy. Thus, national purpose in the 1920s also dictated the need for a vibrant, well-financed small-to- medium-size business sector inasmuch as big business alone could not carry the burden. The industrial structure forced by this necessity has carried forward into the 1990s.

Stakeholder Theory: The German Reality

The recent development in the U.S. of stakeholder theory is an intellectual innovation that represents an attempt to define corporate responsibility to the various constituencies that comprise its domain. As the term is now used, these constituencies include, at the very least, the stockholders, the senior executive group *per se*, the firm's employees and, at minimum, the local community whose economic well-being is directly affected by the corporation's actions. Where necessary, the definition of the stakeholder group may be broadened to include customers, the state and federal government or any other group affected by the specific actions of a specific business firm. To a great extent, the development of the theory follows on from an attempt to clarify the agency relationship in a corporation in which there is a distinct split between the ownership and the management function.[17]

Two separate happenings appear to have been the motivating force behind the recent development of the theory. The first is the failure of key elements of the U.S. economy to remain internationally competitive. The second is the perceived crisis in U.S. management arising from the almost complete separation of the ownership of a firm from its management, and the perception that this has lead to a less than efficient corporate sector. In other words, the theory has been crisis-driven. In more succinct terms, stakeholder theory is about corporate governance in that it seeks to answer questions such as: how should the governance structure be organized; to whom should it be responsible; how do these relationships affect the efficiency with which a business firm is managed; and how do all of these factors interrelate to the international competitiveness of U.S. industry?

In this latter regard, the evidence is informative. Based on a growing body of case-

[17]See, for example, Mark Roe,, "Some Differences in Corporate Structure in Germany, Japan, and the United States", *The Yale Law Journal*, June 1993. Additional insight into the matter can be gained from Michael C. Jensen, "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems", *The Journal of Finance*, July 1993. An extremely interesting view of these matters with significant applicability to German industrial organization is presented in Ronald J. Gilson and Mark Roe, in "Understanding the Japanese Keiretsu: Overlaps Between Corporate Governance and Industrial Organization", *The Yale Law Journal*, January 1993.

oriented knowledge, a strong case can be made for stating that the governance process affects profoundly the effectiveness with which corporate assets are managed.[18] Here, one need only cite the observed differences in corporate governance and overall corporate performance between the U.S. on the one hand, and Germany and Japan on the other.

However, to return to the corporate governance process, it is obvious that the differences in the process internationally flows from both national custom and the law. For example, corporate law in the U.S. supports strongly the position that a corporation should be administered primarily for the benefit of its owners. As such, the law asserts that management's key responsibility is to its stockholders. It is this legal doctrine which has given currency to the normative application in the U.S., of the principle of maximizing stockholder wealth and to the business practices that follow from the application to corporate management of this principle.

Explicit in the maximization principle is the concept that any failure to take actions which maximize the stockholders' interests represents a breach of trust by management and is, as such, actionable. Although never stated as such, the maximization precept is an affirmation of the "exclusivity" concept which is a hallmark of American economic and legal theory. These theories hold that a corporation is private property, i.e., the firm belongs to the stockholders, and all actions taken by the firm are to be measured for their impact on the wealth rights of the stockholder. Although there are other stakeholders whose welfare is affected by any action taken by the corporation, management's responsibility for the welfare of these other parties is to be kept subordinate to its responsibility to the stockholders.

For a multitude of reasons, the Japanese and German view of the stakeholder equation is significantly different. In both countries, the firm is held directly responsible for the welfare not only of the stockholders but also of its employees, the communities in which it is sited, and the various state and federal governments of which it is a legal creation. Moreover, in both Germany and Japan, the welfare of the employees of a firm is often-times treated as being on equal footing with that of the stockholders.

This broadening of the stakeholder concept was not necessarily planned. Rather, the outcome was forced by the weight of national traditions in some instances and by political realities in other instances. In Germany it was recognized that the political and economic excesses of the past would not be tolerated in the post-World War II period. In keeping with this, overt recognition was given to the fact that there was a dire need for an economic system that promoted social and economic equity for all strata of society. This political need was, of course, driven by the virtually total destruction of the German economy during World War II. There was thus a great need to share the rewards of this rebuilding with the self-same people who earlier suffered the loss. Without their active support, the country could not be rebuilt. This reality gave rise to the concept of economic equity as it is now embedded in both German constitutional and corporate law. It is evidenced by the German emphasis on collaborative as opposed to "arms-length" transactions, within the overall social system. This concern with inclusivity has, in

[18]For some relevant background on the evolution of corporate finance in the U.S., see Mark J. Roe, "A Political Theory of American Corporate Finance," *The Columbia Law Review*, January 1991.

turn, led to the development of a distinctive form of corporate governance and a managerial ethos substantially different from that found in the U.S. It has also served to create a series of supporting institutions whose organization helps to maintain the desired emphasis on inclusivity.

For example, as a result of the complete destruction of its economy during World War II, the typical German business firm was forced to rely more heavily on debt capital than its American counterpart. Given the paucity in Germany then of equity capital in the post-war period, the corporate sector had no choice but to rely heavily on debt as its primary source of funds. As such, the resulting debt-equity relationships could not be responsive to any over-riding financial theory or economic thought but rather to the bare-faced reality that equity capital was in very short supply. However, for industry to be able to rely primarily on debt for its long-term capital, a number of collaborative efforts had to take place. First, the government had to provide incentives for high personal savings rates. Without a high personal savings rate, rebuilding industry would have been an impossible task.

Second, in order to maintain the needed flow of personal savings, the German Central Bank had to implement policies that placed primary emphasis on monetary stability. Failing this, any high rate of inflation would have eroded not only the country's stock of capital, but also the consumer confidence needed to maintain this base. Were consumer confidence in the monetary system to erode, the flow of funds to the corporate sector would have dried up, thus aborting the redevelopment of the nation.

Third, the banking system itself had to be stable, as measured by loan-to-capital ratios and similar measures of financial strength. Moreover, the government had to encourage the development of a few very large banks capable of financing the growth of large-scale industry. Last, the German governments had to encourage relationship banking, i.e., long-term bank-corporate lending relationships. Additionally, free-market theory notwithstanding, the government had to avoid the type of de-regulatory environment in the banking system that might then lead toward the disintermediation process, as it was experienced in the U.S.

For Germany, disintermediation might well have been an economic tragedy. For one thing, it would have impeded the development and growth of the *Mittelstand*. For *Mittelstand* companies to prosper, relationship banking is absolutely essential. Further, the failure to encourage the growth of the small business sector might very well have been seen by the German people as a political failure, that is to say, the lack of political will to avoid the type of industrial concentration that occurred during the Wilhelmine and Nazi eras.

Given these realities, the obvious need in Germany was, first, to recognize the interdependence between industry (capital) and its work force (labor) and, second, to provide for institutional mechanisms that serve to harmonize the needs of each of these two groups. In this regard, the issue of corporate governance must be seen as serving a far larger constituency than the stockholder group. The corporation must also be perceived as serving some national interest of value to all of its constituencies. The German system appears to have met this requirement.

5

THE CAPITAL MARKETS IN GERMANY

Introduction

In analyzing the structure and operations of the capital markets in Germany, a number of interrelated factors need to be considered. First, the savings rate in Germany is high. For the overall economy, the savings rate reported for 1992 was 26.1% of gross domestic product, with 12.8% credited to personal savings.[1] Second, the German wage earner is quite risk averse. In 1990, for example, equity instruments accounted for no more than 2-3% of the investment portfolios of German individuals whereas interest earning bank deposits accounted for more than 50% of their liquid assets. Given this type of investment profile, it seems reasonably obvious that the equity markets in Germany are neither as (proportionately) large or as influential as they are in the U.S. or Great Britain.

The figures here are illustrative. The market capitalization of the firms listed on the various U.S. stock exchanges was approximately $4.8 billion at the end of 1993. The comparable figure for Germany was $384 billion, or about 8% of the size of the U.S. market for an economy that is one-fourth as a large.[2]

Systemically, the banking system is organized around three relatively specialized sub-systems: a privately-owned commercial banking system; a group of publicly-owned, savings-oriented banks (*Sparkassen*); and a network of credit cooperatives (*Volks-und Raiffeisenbanken*). The privately owned commercial banks function as universal banks, where they are able to operate both as traditional commercial lenders and as investment bankers.

The individual publicly-owned banks, however, are highly restricted in their operations and function primarily as savings depositories. Conversely, the *Länder* central banks that are responsible for the regulation of this group of banks are allowed to function as universal banks in competition with the privately-owned banking sector. As discussed below, the credit cooperatives are highly specialized along industry and share ownership lines.

As alluded to earlier, the commercial banking system is the major source of external funds for German industry, with long-term loans as opposed to equity being the more dominant financial instrument. Perhaps because of this, and certainly for historical reasons, it is this group of banks that is deeply involved in the corporate governance process in Germany. Significantly, based upon ratings by Standard and Poor and Moody's, the German banking system

[1]The sources for this data are "Vital World Statistics", *The Economist*, Random House, New York 1992; and *Where We Stand*, Michael Wolff, Bantam Books, New York, 1991.

[2]*London Economist*, 1 July 1993.

is the safest in the world. In 1992, three of five top-rated banks in the world were German; the *Deutsche Bank* and the *Landesbanken of Bavaria and Hesse*.[3]

Ruling the roost, so to speak, is the *Deutsche Bundesbank*[4], the central bank of Germany. Although patterned after the U.S. Federal Reserve Bank, the laws governing its organization and operations are imbedded in the German Constitution (*Grundgesetz*).[5] By law, and now by tradition, the *Bundesbank* has far greater autonomy and political power than its American counterpart, as evidenced by the stringent monetary policies it pursued in 1992 and 1993. More will be said of this later.

Legal Organization

The commercial banking sector includes four types of credit institutions: large commercial banks, regional banks, private banks (investment banks) and the German-based branches of foreign banks. All of these institutions are private-law corporations although some are organized as *AGs* and others as *GmbHs*. The major focus of the lending activities of this group of banks is the industrial sector of the economy.

The public bank sector is made up primarily of the individual savings banks and their central *giro institutions*[6] (the regional central institutions of the savings banks). These banks are public-law institutions whose ownerships are vested in the various *Länder*. Unlike the commercial banking sector, their primary function is to advance specific social welfare goals. Given this over-riding requirement, the lending and depository activities of the *individual* savings bank are highly restricted and subject to well-defined *ultra vires* limitations. For example, the individual savings bank cannot engage in business activities not specifically permitted by public law. This restriction does not carry forward to the central *giro institution*. At the *Länder* level, the central bank can compete in all of the markets in which the privately-held universal banks do.

The historical origins of the *credit cooperatives* can be found in the self-help-organizations operating primarily in the agricultural sector. Because their customers are also their shareholders, these public-law institutions bear a striking similarity, if only in their origins, to the cooperative or mutually-owned savings bank that were once common in the New England states. Like the savings sector, these institutions have joined together to form large central banks legally empowered to compete in all of the various German money and capital markets.

This tripartite banking system with competing private as well as public banks is considered to be congruent with the model of a mixed and socially responsible economic system that has been the hallmark of the German economy in the post-World War II time frame. Because private and public banks exist side by side giving the German citizen the ability to select a

[3]Source: *Global Finance*, September 1992. In addition, 9 of the top 20 highest rated banks are German-owned. There is only one U.S. bank that is in the top-rated group of 10, the J.P. Morgan Co. When the list is expanded to fifty banks, 14 German and 4 U.S. banks qualify.

[4]Not to be confused with the *Deutsche Bank*, Germany's largest.

[5]There are German legal scholars who maintain that the *Grundgesetz*, or Basic Laws, is not formally or legally a constitution as we understand that term in the U.S. Notwithstanding the primarily legal issue, for all intent and purpose the *Grundgesetz* can be regarded as providing the legal basis for the organization and operations of the Federal Republic of Germany.

[6]The technical definition of the word *giro* is checking account activity. The term appears to be used to distinguish local, non-commercial banks from the state-level banks (*giros*) which, parenthetically, have the same degree of economic freedom as the privately-owned commercial banks.

bank based on their personal needs, there have been no demands in Germany, as there have been in France, calling for the nationalization of the banking sector. Additionally, it is believed that the absence of any direct and prolonged influence of the state authorities over the operating policies of the publicly-owned banks has prevented some of the classic economic excesses found when government bureaucracies intervene in the public banking sector.

The relative market share of the overall banking sectors in Germany is set out in Table 5-1.

The Commercial Banking System

From a purely economic perspective, the commercial banking sector is the centerpiece of the German banking system. This strong position is the result of three interrelated factors: their very large deposit bases,[7] the fact that they can act as universal

Table 5-1. Relative Market Share of the Overall Banking Sectors in Germany

	Assets 1985	Market Share %	Assets 1990	Market Share %
Private Commercial	742.8	22.6	1,409	24.1
Savings	1,236.5	37.7	1,843	31.5
Cooperatives	521.1	5.9	808.6	13.8
Mortgage	469.1	14.3	1,068	18.2
Installment Finance	39.2	1.2	154.5	2.6
Special Function	224.4	6.8	499.6	8.5
Postal Savings/*Giro*	50.6	1.5	72.9	1.3
Total	3,283.7	100	5,855.6	100

All values in DM bn. Total assets and market shares as of 31 Dec.

Source: Various *Bundesbank* publications.

[7]The world's largest banks are, of course, located in Japan. However, if an asset base of $200 billion is used as a cut-off point for size comparisons, the *Deutsche Bank* with almost 300 billion U.S. dollars in assets fits easily into this category. Intriguingly enough, only one U.S. bank, Citicorp, meets this criterion. Conversely, there are nine Japanese banks with assets greater than U.S. $200 billion, plus four from France, two from the United Kingdon, and one from the Netherlands. In the instance of the latter three countries, the number of banks is far smaller than in the U.S. thus forcing a concentration in the deposit base. The source for the data on asset size is drawn from the September 1992 issue of *Global Finance*.

[8]Based on *Bundesbank* data published in June 1991, the ownership patterns of shares in German corporations was as follows:

Private individuals	15.94%
Companies	40.19%
Insurance companies	11.28%
Banks	9.98%
Federal & State governments	6.38%
External	16.22%

The above data should not be confused with vote holdings of the German banks which are far greater than implied by the above data. The appropriate figure here for 32 of the largest corporations in Germany is 64.49%.

bankers, and the fact that there are virtually no restrictions on corporate cross-ownership in Germany.[8] In many instances this gives them a major competitive advantage in Germany *vis-à-vis* British and American banks who are prohibited from many of the business activities otherwise available to the German bank.[9] By contrast, German commercial (universal) banks conduct every type of commercial and investment service "under one roof", i.e., they do short and long-term lending, engage in the securities business, and perform the services otherwise the responsibility in the U.S. of investment bankers and stockbrokers. Moreover, and once again in contrast with the situation found in the U.S., both private and public law German banks invest in securities for clients and for their own accounts. This ability to perform all of the necessary financial services for their large diversified corporate clientele has allowed for the very close working relationships between the capital markets and the German industrial sector. It is this relationship that has led over time to the cross-ownership of financial and non-financial corporations: the significant influence exerted on the corporate governance process in Germany by its commercial banks.

Savings Banks (*Sparkassen*)

Like with so many other German institutions, a brief look at the savings bank history is essential. The German savings bank system originated in the 18th century. Because there was no reliable national banking system for the German citizens, savings banks were organized primarily to meet the social goals of the time. Even during the 19th century, the absence of a national system and the recognition of the limited taxing ability of the relatively small Germanic states, forced the development of savings banks in order to finance needed infrastructural systems. Today, in addition to meeting both corporate and personal banking needs, the savings bank system is also responsible for managing a substantial portion of the payment transactions that are an integral part of any modern economy. Portfolio-wise, savings deposits account for more than half of the liabilities of this banking sector. In turn, the major components of the asset side of their balance sheet consists of personal loans, mortgage financing and most importantly loans to local authorities. In keeping with their charter and overall function in the economy, savings banks are prohibited from engaging in high-risk markets and are required to maintain very high liquidity levels. On the other hand, the legal minimal capital requirements for savings banks are much more liberal than those for private commercial banks.

Giro associations (*Landeszentralbanken*) were subsequently formed in each of the German federal states in order to coordinate the actions of this part of the banking system and to function as universal banks, an authority not granted to the individual savings bank. These central institutions are either public law corporations owned by the respective federal state or joint ventures between the state and its savings bank association. Given this, the responsibility for maintaining the safety and liquidity of this sector system is held either by the state, or jointly where the state and the savings bank association share ownership of the central bank.

Cooperative Banks (*Volks-und Raiffeisenbanken*)

The basic function of the cooperative bank is to provide for the working capital needs of its members with funds provided by all

[9]This latter limitation is the result of banking traditions in Great Britain and the Glass-Steegal legislation in the U.S. The scope of the business activities that most "Anglo-Saxon" banks can undertake is highly constrained.

members of the cooperative. Unlike the savings bank system which relies on deposits as the source of their funds, the cooperative bank relies on the purchase of equity-type shares to meet its capital needs.[10] In keeping with this, the members of a cooperative bank are liable for the bank's obligations from their own funds but, conversely, share in the profits of the bank in proportion to their paid-in share capital. Until 1972, there were two competing cooperative banks; the *Raiffeisenbank*, concentrating mostly on the agricultural sector, and the *Volksbank* that concentrated its banking-type activities in the craft sector. Both of these entities have now been unified into the *Bundesverband der Volks-und Raiffeisenbanken.*

Banking Law

The Law on Banking of 1962 is the most important legislation concerning the operations of German banks. By comparison to the regulations in other countries, German Banking Law appears to be rather liberal, for example, the freedom to set up branches in any and all geographic areas and the absence of ceilings on interest rates that can be paid on deposits. The Banking Law was first amended in 1976 in order to strengthen the protection accorded the bank's creditors and depositors. The collapse of the German mid-size bank *I.D. Herstatt Kgaa.* in 1974 prompted the voluntary creation of a deposit insurance fund for private commercial banks. A further amendment was introduced after the 1983 collapse of the private banking firm of *Munchmeyer, Hengst & Co.* Drastic changes in equity lending ratios and loan limits were imposed on the banking system.

In contrast to the orientation and purpose of the Federal Deposit Insurance Corporation (FDIC) in the U.S., the greater portion of the German regulatory regime is designed to insure that the banking system *as a whole does* not collapse. In order to accomplish this, three guiding principles have been adopted and made part of German banking law. The three principles are:

- The so-called "liquidity principle" which defines the minimum amounts of capital and outstanding credits that be held by a bank.
- The insurance of deposits through a deposit insurance fund.
- The establishment of a "liquidity syndicate bank."

The *liquidity provisions* are laid down in three provisions of the banking law. The first provision restricts the total credit extended (excluding lending to domestic government authorities) to 18 times the bank's capital plus reserves and retained profits. In addition, the foreign exchange position of a bank cannot exceed 30% of its total capital as defined above. The second provision states that the long-term lending position of a bank should not exceed long-term funds as defined by owned capital, funds obtained from sale of own bonds, 60% of savings deposits and 10% of current (checking) accounts. The last provision regulates liquidity in general. For example, no individual loan amount can be greater than 75% of the bank's own capital. Moreover, the five largest loans granted by a bank cannot be greater than three times the bank's capital, and the upper limit for all large loans is eight times the banks capital.

The *insurance deposit system* functions out of a Deposit Insurance Fund enacted into law in 1976 in the by-laws of the Deposit Protection Fund of the Federal Association of German Banks. Membership in the fund is voluntary, but in order to become a member, a bank must conform to the minimum equity capital standards of the Banking Supervisory Authority. Member banks

[10]Cooperative banks are primarily regulated by the Business and Trade Cooperatives Act of 1889.

must also employ two qualified managers, must be profitable and must meet established liquidity standards.

The *Liquiditäts-Konsortialbank GmbH* or Liquidity Bank was established in Frankfurt in 1974 by the *Bundesbank*.[11] The major responsibility of the bank is to make sure that the overall banking system does not lose its liquidity as a result of massive and unforeseen deposit withdrawals. A collaborative effort to protect against loss of liquidity is accomplished by the overall banking system, which consists of the *Bundesbank* (30%), the savings bank sector (26.5%), the credit cooperatives sector (11%), and other elements of the banking community. Although the bank is now capitalized at DM 310 million, the shareholders are obligated to increase their capital contributions to DM 930 million if necessary. In the event of an emergency a bank can, subject to the approval of the syndicate's Credit Committee, draw bills on the syndicate and subsequently discount them with the *Bundesbank*.

Banking Supervision

The supervision of all banks operating in Germany is the responsibility of the Berlin-based Federal Banking Supervisory Office. Its primary function is to ensure that the provisions set out in the Banking Law are adhered to and to prevent conduct by banking institutions that could be of "disadvantage to the economy as a whole". The office is an independent agency within the sphere of responsibility of the Ministry of Finance.

However, for most banks, the oversight responsibilities of their regional associations are of greater importance than the supervision of the federal office. Compared to the supervisory system in the U.S., the regulations seem to be more liberal and more centralized. However, while the German regulations appear to be more liberal, regional oversight is much more stringent such that the type of Savings and Loan scandals that occurred in the U.S. are virtually impossible in Germany.

The German Equity Market

The stock market plays a far less significant role in Germany than it does in most other highly industrialized nations. This outcome reflects a number of factors such as the overall strength of the German banking system and the relationship banking system that this strength engenders. In addition, the continuing Germanic preference for fixed-income investments and for family-owned business serve to limit the size and influence of the equity markets.

As a result of this, there are far fewer publicly-held companies in Germany than in the other highly developed nations. There are, for example, almost 8,000 publicly-owned firms in the U.S. In Germany, the number is somewhat less than 2,000 of which only about 450 are listed for trading on the various German stock exchanges. The limited number of listed firms reflects the fact that most German firms rely on long-term bank financing to supplement retained earnings when these are insufficient to fund desired levels of growth. Based on the available evidence, it appears safe to assume that the traditionally close relationship that exists between the corporate and the banking sector in Germany allows for the expanded use in corporate financing of debt instruments.[12]

[11]The central bank of Germany and the equivalent of the Federal Reserve Bank in the U.S..

[12]This statement relies on the fact that the German banks have greater access to corporate information on a continuing basis than do their American counterparts. Because of this, and because the larger banks are oftentimes represented on the corporation's Board of Directors, it can be assumed that they are in a better position to assess the risk in lending, high levels of leverage, and other matters. In U.S. terminology, this reduces the "transaction costs" involved in the lending relationship and, in turn, the overall cost of capital to the German corporation as compared to its American counterpart.

Notwithstanding this, the commercial banking system plays a dominant role in the German stock market. An individual wishing either to buy or sell tradeable shares must work through a commercial bank.

The Stock Exchanges

Although there are seven stock exchanges in Germany, the Frankfurt Exchange accounts for more than 60% of the value of the shares traded and is thus the most important of the group.[13] Despite its preeminence in the German market, however, Frankfurt is a relatively small exchange. In 1989, the market value of the firms listed for trading in Frankfurt was estimated to be U.S. $240 billion, or something less than 5% of the value of the stocks traded on the New York Stock Exchange.

The Frankfurt Stock Exchange has 209 member firms, 166 of whom are designated as *Kursmakler*, or official brokers, and 43 of whom are designated as *Freie Makler*, or free brokers. 131 of the 166 official brokers are commercial banks. The official brokers are state-licensed, responsible for supervising the official market and generally not allowed to trade on their own account. Free brokers are independent businessmen who can trade in any stock for their own account but cannot represent other individuals.

Trading hours are extremely short; from 10:30 to 1:30, five days a week.[14] A "call-auction" system is used in which incoming purchase and sale orders are either traded against the order book of an official broker or against the other floor brokers. At a noon auction, the official brokers determine the market clearing prices on the basis of accumulated orders. Until 1991, only the noon auction prices were released to the public. However, a recently developed reporting system now provides real-time prices to the banks, to institutional investors and to members of the brokerage community.[15]

Listing Requirements

Somewhat in keeping with the U.S. model, there are three levels of registration recognized in the German system: *Amtlicher Handel*, or the official market; *Geregelter Markt*, or regulated market, and the so-called *Freier Handel*, or Free Market. The primary difference between these markets, all of which are represented on the seven German stock exchanges, is in the listing requirement. In the Official Market, a minimum capital base of DM 2,500,000 is required. Additionally, companies in this category have to publish financial data twice a year. The listing requirements for the Regulated Market are less stringent. Companies only have to publish financial information once a year, and the minimum capital requirement for listing purposes is DM 500,000.

Bearer Shares

Unlike the U.S. with its stock clearing and registration process, German shares are issued in bearer form, that is to say, as fully negotiable certificates that do not require further proof of ownership. This reflects the prototypical European practice which was designed to guarantee the investors privacy and, parenthetically, allow for forms of tax avoidance or evasion that are not possible under the U.S. system. Given this practice,

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[13] *Frankfurt, Hamburg, Düsseldorf, Berlin, Bremen, Hanover,* and *Stuttgart.*

[14] Off-exchange trading takes place only before or after the official hours of 10:30 to 1:30.

[15] In December 1989, the German banks and the *DWZ* introduced *IBIS* (Interbanken Information System), a system that was aimed at creating greater transparency in the off-exchange markets.

most stock certificates are deposited for safe-keeping with a commercial bank who then enters into a proxy agreement with the actual owner of the stock (see below).

The Private Banks

A small number of *Privatbanken*, or investment bankers, still operate in Germany and function pretty much like their American counterparts. In 1992, there were 89 such banks listed with the *Bundesbank*. This sector of the banking community is not involved in the mass deposit business. Rather the firms that make up this group concentrate on dealing in securities for a number of long-standing clients. The most important of these banks are *Sal. Oppenheimer Jr. & Cie, Cologne; Merck, Finck & Co., Munich;* and *Trinkhaus & Buckhardt, Düsseldorf.*

Summary

In assessing the role and importance of the stock market in Germany, it is worthwhile to note that for 1987 only $5.5 billion of U. S. equity financing was undertaken in Germany. The comparable figures for Great Britain and France are U.S. $21.6 billion and U.S. $15 billion, respectively. This outcome was obtained despite the fact that economic growth in Germany during the late 1950s began to out-pace the ability of firms to finance growth, with only retained earnings. Data on corporate borrowings in the post-World War II period are set out in Table 5-2.

These figures, however, obscure a critical reality. It is the small-to-medium-scale firm that is primarily dependent on bank financing. The reliance on bank credits of the large-scale German corporations fell from 16.9% in 1974 to 6.6% in 1984. *Mittelstand* firms still rely primarily on bank loans for an estimated 75% of their long-term capital needs. The reduced reliance of the larger firms on bank financing has been attributed to a change in corporate policies as well as the development of international capital markets which now allows the large-scale German corporation increased access to equity-type capital.[16]

Table 5-2. Corporate Borrowings in the Post World War II Period

	Total Liabilities	Bank Borrowings	% Share
1950	43.0	20.8	48.3
1960	230.5	133.1	57.7
1970	679.9	406.2	59.7
1980	1,694.9	1,024.8	60.5

Source: Various *Bundesbank* publications.

[16]Perhaps the best evidence of this is the fact that the *Daimler Benz* Corporation sought a listing in late 1993 on the New York Stock Exchange.

Mechanisms of Banking Influence

The uniquely German separation of the Board of Directors from the management function has created a situation which forces German stockholders to rely on outside directors to represent their interest. Because of this, and given the Germanic tradition of the house bank, the stockholders have understandably looked to senior members of the banking community, and in particular to the "big three" of the German banking industry, for responsible representation.[17] Given the typically long-term relationship that most German banks have had with their clients, bank members of the *Aufsichtsrat* can bring an extremely broad perspective to their corporate directorship responsibilities. In light of this, the banking community has taken on a significant number of board-level responsibilities in Germany.

Two factors reinforce the bank's position *vis-à-vis* the selection process for seats on the Supervisory Board. The first is the fact that German stock certificates are issued in bearer form and are normally deposited with a bank. In light of this, the bank is expected to act as the voting proxy for the owner. Access to these voting rights, plus those of the bank's own holdings, serves to increase the influence of the bank and its management on the boards of a significant number of major corporations.

The second fact is the bearer form of ownership negates the need for the type of corporate-managed stock registration process that is found in the U.S. As such, with the exception of the very large shareholder who may have made his ownership position known, the German corporation has no direct way of knowing who its shareholders are. Thus, and once again unlike their U.S. counterparts, the individual corporation cannot control its proxy solicitation process. Only the banks can! This latter fact serves to further increase the banks' influence in the corporate sector.

From an overall perspective, the active role in the governance process of the banking community appears to have a number of salutary outcomes. First, it appears to allow for the wider dissemination of critical non-proprietary intelligence throughout the German business community. Second, it appears to provide the corporate sector with greater access to either debt or equity financing and at a lower cost than in most other countries.[18] At the same time, the active role of the banks in the governance process can lead, as shown in Table 5-3, to a system of cross-ownerships that concentrates economic power in a limited number of institutions. Whether this is good or bad is a matter beyond the scope of this analysis.

As the table shows, the *Deutsche Bank* holds substantial equity positions in a number of large-scale German industrial firms.[19]

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[17]The "Big Three" of the German banking system are the *Deutsche Bank*, the *Dresdner Bank* and the *Commerzbank*. These three banks have certain features in common, notably the post-war deconcentration and re-amalgamation process in the mid-1950's; the image of the universal bank with a network covering the whole country; and similar efforts to become pan-European and international banks. These three banks manage about 50% of Germany's foreign exchange arrangements and approximately half of all German securities issues.

[18]See footnote 14.

[19]At least three of the companies shown in the table appear on a list of the 100 largest German firms: *Daimler-Benz*, Germany's largest company with sales of approximately $50 billion U.S.; *Karstadt AG* with annual sales in the $7-8 billion U.S.; and *Kloeckner-Humboldt* with sales of approximately $3.0 billion U.S. Further adding to the bank's strength and influence is *Allianz*, Germany's largest insurance company. Given German practice, it is likely that all of these companies have stock positions in other German firms. This latter statement is an educated guess as opposed to a statistical "fact".

Table 5-3. Partial Listing of the Equity Holdings of the *Deutsche Bank* as of July 1991

Corporation	% Equity Stake	Sector
Daimler Benz	28.37	Vehicles, Aerospace
Phillip Holzmann	30.00	Building
Hutschenreuther	25.09	Porcelain
Karstadt	25.26	Retail
Kloeckner-Humboldt	41.14	Engineering
NINO	23.93	Textiles
Allianz	10.00	Insurance
Fuchs Petrolub	10.00	Oil, Chemicals
Hapag-Lloyd	12.50	Transport, Tourism
Südzucker	16.90	Sugar

Source: Various *Bundesbank* publications.

Moreover, based on German corporate law, it enjoys a *blocking position* in many of these firms. A blocking position is obtained by any individual or group of individuals who own 25% or more of the common shares of a publicly held corporation. This position then allows the shareholder to vote down any potential major change in the management of the firm, any merger or acquisition program that the firm may then be entertaining and any otherwise unwanted dissolution or sale of corporate assets. For these actions, a simple majority vote of the corporate shareholders is not adequate.[20]

In keeping with the above, the commercial banking system now accounts for 90% of the voting rights in widely held German corporations. Moreover, the "big-three" of the German banking system collectively control over 40% of these voting rights. Last, the banking systems exercise almost 34% of the total voting power in the top 100 German corporations and over 50% in the ten largest German companies. Even though the nominal ownership of stocks by German banks is not significantly greater than that of U.S. financial institutions, the influence of German banks on the actual voting outcome of shareholders meetings in Germany is significantly greater than in the U.S.[21]

The Anti-Bank Movement

Notwithstanding the above, and following on from the criticisms levelled against the

[20]German corporate law places more emphasis on corporate stability than does U.S. law. A hostile takeover is very unlikely in Germany - given both German law and tradition.

[21]Given the various rulings of the U.S. Security and Exchange Commission (SEC), plus a number of court rulings, U.S. financial intermediary voting the shares, or otherwise taking an active part in the management of a firm in which it has a shareholding, can find itself in violation of any number of laws and regulations. The same is not true in Germany with its long history of cartel-based negotiations and joint bank and corporate ownership positions. This latter outcome is representative of the differing perspectives on the roles of the equity markets in the two countries. More so than the German investor, the U.S. institutional investor is willing to sacrifice control for liquidity. The German institutional investor apparently places more emphasis on control. Given this reality, the German proxy system is often considered to be a functional analogue of the Japanese "keiretsu" system.

banking community in 1980 by the German Commission on Monopoly, the universal banks have decreased their stockholding in recent years. In 1976, the banks had an equity stake of 10% or more in 129 firms. By 1986, the number of such holdings was reduced to 86. The average equity stake held by German banks in all publicly listed stock corporations similarly fell from 4.5% to 3.2%. This trend has been most evident with the *Deutsche Bank*, the data in Table 5-3 notwithstanding. This bank which holds approximately 120 seats on the supervisory boards of German corporations, has voluntarily begun to give up the chairmanship of many of these boards. Overall the representation of German banks on the supervisory boards of the 100 largest corporations fell to 7% of the Boards' membership in 1990.

With one exception, the fear of economic concentration has not been the motivating factor in arguing for decreasing the banks' influence on Supervisory Boards. Clearly, as evidenced by the actions of the monopoly commission, there has been public criticism of the level of influence exerted on the corporate sector by the business community. Conversely, two other factors have come into play.

The first is the increased costs incurred by the banking community in monitoring the activities of the industrial sector. Because of the growing internationalization of the capital markets, the German banks no longer hold a monopoly position *vis-à-vis* its customers. As such, they may no longer be willing to bear the full cost of monitoring a client's activities.

Perhaps more critically, the growth of merger and acquisition activities in Europe in anticipation of the 1992 agreements on the European Common Market, can present a bank with a possible conflict of interest. This potential for conflict is created when a bank is simultaneously a firm's housebank, its investment banker and represented on its Board of Directors. If acquisitions such as some of those made by the *Daimler Benz* company (see Volume 3) do not work out, an attempt may be made to place the responsibility for these failures on bank's members of the Board of Directors.[22] Despite this possibility, the *Deutsche Bank* acquired the London-based investment banking firm of Morgan Grenfell. This acquisition may be regarded as evidence that the *Deutsche Bank* intends to participate in the European merger and acquisitions market.

Summary

Notwithstanding the above, it is unlikely that significant changes will be made to the corporate-banking relationship in Germany. Bank membership on the Supervisory Boards of various corporations allows for a relatively free flow of information between industrial firms and institutions than would otherwise obtain. Given their widespread contacts, bank-based board members can be key sources of intelligence for the corporation as well as the catalyst for greater cooperation within the corporate sector. It is this latter ability that may well be the most critical factor in the German corporate governance process. When this factor is added to the influence of the labor force members of the *Aufsichtsrat*,[23] it seems evident management can be held far more accountable for its actions than they might otherwise obtain. This accountability, in

[22]A series of scandals in the German securities markets have provoked a discussion on the regulation of the German stock exchange activities. Since the "Big Three" have been involved in these scandals, they are now the front-runners in calling for the establishment of a regulatory institution in Germany similar to the American SEC.

[23]See, for example, Jonathan Charkham, *Keeping Good Company*, Clarendon Press, Oxford, 1994.

turn, is supported by Germany's desire for a consensual approach to corporate decision-making.

The active role taken in the German industry by the banking system has been critical to the post-World War II redevelopment of the German economy. In particular, the system has been particularly responsive to the needs of the small-to-medium-size business. Assuming that these latter firms remain vital, they can look forward to a continuing relationship with the sources of debt financing that they need to either continue or expand business operations. Moreover, the banking system maintains the expertise needed to handle the foreign transactions that are one of the key elements of a successful export program. For the smaller firm that cannot afford to maintain an in-house expertise in these matters a relationship with the banking system is essential.[24]

THE BUNDESBANK

Primary Functions of the *Bundesbank*

As with virtually all central banks, the *Deutsche Bundesbank* has four main functions. First, it is the only institution in Germany legally able to issue currency. As such, it can regulate the money supply entering the economy. Second, it is responsible for the overall solvency of the banking system, although it shares the responsibility with other banking institutions. Third, as the bank of both the Federal Government and the various German states, it handles their payment transactions. Last, it administers the nation's foreign currency reserves and represents the Federal Republic in organizations dealing with the international monetary system.

As in the case of virtually all other countries, the *Bundesbank* is responsible for funneling money into the economy. These

Table 5-4. Large Trade Surplus Earned by the Federal Republic Since 1960

ASSETS					
%	Foreign	Refinancing	Fiscal	Other	Total
1950	6.2	32.0	52.9		
1960	73.8	4.3	19.6	2.3	100
1970	60.5	22.1	13.1	4.3	100
1980	53.3	29.4	5.7	11.6	100
1990	30.5	59.6	2.6	7.3	100
1991	28.6	65.3	2.5	3.6	100

Source: Various *Bundesbank* publications.

[24]German banks are also active as advisors on the succession problem often faced by privately-owned small-to-medium-size business firm. Many banks have been active in the search for and selection of managers when either death or retirement has brought the issue to the fore. From a very practical perspective, this is one technique for protecting the bank's investment in the firm. From another perspective, it is also a way that the banking system can work to support national goals designed to insure economic stability.

funds are derived from three key sources: through Federal and State borrowing from the Central Bank, the so-called fiscal component; by lending funds to the private banking sector, the so-called refinancing component; and through the foreign component, or the monies due the Central Bank from foreign sources.

Given the export orientation of the German economy, the relative strength of these sources of funds is different from other countries. In contrast with the U.S. where the fiscal and refinancing components are far more significant, the foreign component has substantial influence on the policies adopted by the *Bundesbank*. The historically large size of the foreign component is, of course, due to the large trade surplus earned since 1960 by the Federal Republic. See Table 5-4 for related data.[25]

Operating Policies

The operating practices of the *Bundesbank*, with one possible exception, once again adhere to the traditional pattern set by most central banks.

Much like the U.S. Federal Reserve Bank after which it was initially patterned, the *Bundesbank* pursues an open market policy, that is to say, it influences the cost of available money in the economy by buying and selling bills of exchange, treasury bills, government bonds and other bonds if they are listed on the German stock exchange. Collaterally, because of the size of its foreign assets, it actively influences the foreign exchange market.

As noted previously, as the "Banker's Bank", the *Bundesbank* provides the Central Bank money to credit-granting German institutions. It has, thus, both legal and practical control over the supply of money and credit in Germany. One of its major market-influencing instruments is the setting of the Discount and Lombard rates. These represent the terms under which refinancing is available to banks in the form of discounts, that is to say, financing through bills of exchange or Lombard credits which represent the granting of a loan against pledged securities. Lombard credits are only granted for short-term or temporary liquidity needs. In addition, as discussed earlier, the Bank can act as "the lender of last resort" in order to make money available if and when the liquidity of the monetary system is threatened.

The one key exception of a direct comparison to the U.S. Federal Reserve Bank has to do with the *Bundesbank's* relationship to the Federal government. By law, the government cannot borrow funds from the Bundesbank except to cover the short-term financing needs that arise when there is a temporary disparity between government expenditures and receipts. Moreover, according to the *Bundesbank Law*, financing of this type is limited to DM 6 billion. This loan limit cannot be exceeded unless the German Constitution is changed.

Legal Status of the *Bundesbank*

Because of the operating history of the German Central Bank during the periods of World War I, the Nazi Regime and, in particular, the Weimar Republic, the framers of the German Constitution were rightfully concerned with the chartering of a highly autonomous Central Bank capable of resisting political pressures. As such,the legal

[25]For comparison purposes, it should be noted that the Central Bank's assets increased from something less than DM 18 million in 1950 to slightly more than DM 350 million in 1990.

[26]The legal rights of the *Bundesbank* can only be overturned by amending the *Bundesbank* Act in the German *Bundestag* (parliament).

basis for the Bank can be found both in Article 88 of the German Constitution (Basic Law), and the Federal Bank Act of 1957. Under the terms of these two pieces of legislation, the *Deutsche Bundesbank* was created as a federal body and a juristic person under public law.[26] The ultimate result of this legislation has been the creation of a strong central authority coupled to a decentralized structure at the *Länder* level. Although its original capital of DM 290 million is owned by the German federal government and all of its profits go to the federal authorities,[27] the bank is neither under the direction or direct supervision of the government nor subject to parliamentary control. It is this independence which essentially makes it a "fourth power" in the German constitutional system.[28] The bank's primary legal obligation is to safeguard the DM currency; i.e., to control inflation rates in order to ensure the stability of the *Deutschmark*.

The Power of Appointment

Notwithstanding its constitutionally, guaranteed autonomy, the government nevertheless has some influence over the *Bundesbank*. This is the result of its ability to appoint persons to the Central Bank Council, the main decision making body of the *Bundesbank*. The members of the Board of Directors, its president, vice-president and up to six additional directors of the Central Bank Council are appointed by the Federal President for a term of eight years upon their nomination by the Federal Government. In addition, the Presidents of the *Landeszentralbanken* are members of the Central Bank Council. These members are appointed to the Council by the Federal President upon nomination of the respective *Länder* governments in the Federal Upper House, i.e., the *Bundesrat*.[29]

The Council's decisions are either carried out by the *Bundesbank* itself, and/or by the *Landeszentralbanken* if the issue is of regional importance. The *Landeszentralbanken* are dependent on the directives from the *Bundesbank*. However, these banks have their own boards composed of representatives from the credit institutions, large corporations and labor organizations. It is this group that acts as a corporate advisor to *Länder-level* bank management. In this regard, and representing U.S. influence in the post-World War II period, the Council is similar to the Board of Governors of the Federal Reserve with the *Landeszentralbanken* being similar to the 12 Federal Reserve Banks. However, inasmuch as the Federal Reserve Banks are actually owned by their member banks, they have greater independence *vis-à-vis* the Board of Governors than do the *Landeszentralbanken*.

History and Origins

The current Central Bank of the Federal Republic of Germany was founded in 1956. Its origins date back to 1875, however, when the funds of the Prussian central bank were transferred to the newly formed *Reichsbank* following the creation of a unified German state in 1871. Despite the fact that the bank was under the supervision of the German government, its initial capital was provided by private shareholders. However, this joint influence notwithstanding, the bank was able to maintain a relatively high degree of independence from the government until the beginning of World War I.

[27]By the end of 1991 the total capital and reserves of the *Bundesbank* were DM 8,925 million.

[28]The authority and the independence of the *Bundesbank* in this regard is explicitly supported by Section 12 of the *Bundesbank* Law.

[29]Germany has a bicameral system, the *Bundestag*, or the lower house, and the *Bundesrat*, or the upper house.

With the beginning of World War I, however, the role of the bank changed from that of a central currency authority to that of an instrument designed to finance the war. In order to accomplish this, the bank was freed from its obligations to redeem its notes in gold and to maintain a cash cover of one-third of the notes in circulation in the economy. As such, it became no more and no less than a source of credit for the government. It was the outcome of this behavior that led to the 1923 inflation in Germany that has, except for a brief period during the Nazi era, influenced the formation and implementation of the German monetary policy.

After the end of World War II, and in keeping with the terms of the Potsdam Agreement, Germany was divided into zones. Because each of these zones was occupied by a different World War II ally, the German banking system was decentralized by creating a system of State-based central banks. It was not until 1948 that the *Bank Deutscher Länder* was established and given the responsibility for coordinating the activities of the central banks of the *Länder*.

Although the creation of a new Central Bank for Germany was already anticipated, the *Bank Deutscher Länder* was then only the central organization of the *Landeszentralbanken*. However, from its inception, the *Bank Deutscher Länder*, as was its successor the *Bundesbank*, was granted independence from the Federal government.

6

THE UNITED STATES AND GERMANY COMPARED

Introduction

Germany is different from the United States (U.S.). Its history is different. Its political system is different. Its national ethos is different. Even the institutional framework around which it is organized is patently different from that of the U.S.

Conversely, Germany is like the U.S. in that it is presently a democratic nation with a commitment to a free-market economy. However, as noted earlier, not all free market economies are the same. The theories and practices underlying industrial organization vary from country to country; as do the underlying set of beliefs for the rationale and societal goals of that economy. In this regard, there are pervasively important differences in industrial organization and behavior of the two countries, with many of these differences resulting from differing ideological orientations. Further, many of these differences have deep roots in the history and psychology of a nation and can only be understood as these roots are exposed. *Ordnungspolitik*, used to describe the social contract in Germany, can only be understood against the backdrop of the nation's history and the ideologies it has now adopted in response to this history. Although the primary thrust of this research is a comparison of the U.S. and German industrial organizations, a topic that would appear to lend itself solely to a relatively fact-oriented analysis, one ignores these differences at the risk of developing a superficial view only of the modern German role in industry and trade. Previously discussed, the German view of the corporate governance process is different from the American view. In addition, the German view on the need for legislatively-mandated intermediaries between government and industry, that is to say, the *Verbände* also differs. There are, of course, other differences as noted in Appendix A — Explanatory Matrix.

More typically, one of the key disjunctures between American and German management-oriented thinking can be found in the actual approach taken by each toward the small-to-medium-size corporation. Both nations regard the small business sector as one of the key underfootings on which the economic structure of a democratic society is built. However, the U.S. takes a far more *laissez faire* attitude toward small business than does Germany. With the possible exception of the Small Business Administration, there is no formal mechanism at any governmental level in the U.S. that defines the needs of this sector and then takes *collective political action* to insure that its needs are met. In the U.S., the individual business men their on their own; for the most part, their success or failure is not of special interest to the government.

In Germany, the opposite is true. The Chambers of Commerce and Trade have manifest responsibilities for reducing many of the business risks and concomitant transaction costs that are an integral part of any

industrial system. In the German view, all businesses — but especially the small-to-medium-size businesses — are an integral part of the overall German system and must therefore be integrated into the nation's social fabric.

The role of the Chambers in the vocational education system is just one example of a coordinated approach to this integrative process. By minimizing the corporate level transaction costs otherwise incurred in training a labor force, the Chambers act formally to fulfill a critical national goal. In recognition of the absolute size of this cost and the relatively small size of the typical German business, much of the cost of training a labor force is shifted away from the business sector to society at large. The spill-over of benefits to both management and labor, and hence the nation, are sufficiently large to justify the investment. The outcome of these collaborative actions, then, is a highly-trained labor force not only attuned to the need for technological change but, for the most part, sufficiently well educated to be adaptive to change when it occurs. In this regard, the psychology underlying the German industrial organization is far different from that found in the U.S.

Following on from this, the evidence strongly supports the conclusion that the Germans take a far more positive attitude toward the role of business in society than Americans. Germans readily accept the premise that since the business firm is a creation of the state it has a responsibility to society at large; most notably in the training of future generations for jobs whose wage and salary levels are consistent with a relatively high standard of living. The attainment of this goal, however, is seen as a joint responsibility of the government and business sector. The arm's length relationship between government and industry traditionally seen in the U.S., seems unrealistic and ineffective. For these reasons, it is replaced by a collaborative effort between industry, government and the intervening public-law institutions that are one of the unique features of the German industrial organization. Whether this is the result of some of the German nation's sad history in this century, a result of the socialist affinities displayed by the nation since the early 1800s, or due to some factor beyond the scope of our analysis, is herein irrelevant. The more telling fact is that the psychological mind-set of the German polity *vis-à-vis* the business sector is substantially different from that found in the U.S.

Here it needs to be stated once again that both the U.S. and Germany are, for the most part, committed to the concept of a free-market economy in which government plays as minor a role as is economically and politically possible. The German view departs from the American perspective only in that it overtly regards the business sector, and in particular the *Mittelstand*, as a national resource whose needs and interest are coterminous with those of the public at large. As such, Germany has developed a national industrial policy which overtly treats of the needs of the *Mittelstand*, the craft trades, and industry in general. It has also developed and supported an infrastructure to support these national policies. Moreover, this infrastructure does not operate solely in the vocational education area but extends to two other industrially critical areas.

Industrial Standards

The first is in the active development and promulgation of industrial standards. The existence of these standards ultimately has two benefits. At the first level, their common usage by all of German industry

serves to reduce intra-company contracting costs. Unlike the situation that often obtains in the U.S., product and manufacturing standards no longer need to be negotiated on a case-by-case basis.

At the second level, the existence of these standards act as a spur to collaboratively-oriented specialization within the small business sector. The make-or-buy decision is oftentimes supplanted by a cooperative effort that allows for the more rapid development and fielding of jointly sponsored and produced products than might otherwise be obtained when commonality of standards is not a given. It is important to realize that the German system of industrial standardization is unique in the range of intermediate goods and components that it covers. It accurately specifies the volume of detail, especially in relation to performance, as well as the legal status of its norms. This system, as it works today, emerged as part of a remarkable effort to promote industrial rationalization in Germany. The immediate impacts of the standardization system are that it reduces transaction costs by providing clearly specified interface requirements for products; and it fulfills a quality certification function especially important for industrial components. But the indirect effects are even greater.

For example, the standardization process, the preparation of new standards and the review of existing ones, provide an important basis for the exchange of technical information with industry and its users and suppliers. This information is eventually made public, but the long lead times associated with drafting standards, and the small share of the total information generated ensure that the exchange process operates as a local public good. The primary beneficiaries are both the firms which are most actively involved in industry and the quasi-public corporations.

Another advantage of this system is that the density of these information flows ensure that, by the time a new standard is announced, German firms are in a position to adopt it. The system of industrial standardization can, therefore, also be viewed as a function of putting pressure on firms to upgrade their products, while providing them with the required technical information.

The Chambers have a role in that they provide a vehicle for the transfer of business and product knowledge throughout the business community. In a way that may well appear to Americans to be far more authoritarian than is otherwise justified. The Chambers use their authority to promote the wider dissemination of technological information, of which industrial standards is but one component. However, the greater evidence is that they do this without intruding on the prerogatives of the individual business entity.

Based on this evidence, then, it appears evident that the German business community does not believe that the individual firm necessarily creates a comparative advantage for itself by maintaining exclusive rights to any managerial or technological breakthrough that it may have realized. Rather, the more prevailing German view is that the individual business is better served by taking steps which insure that the entire business community operates at whatever the cutting edge of technical and managerial practice may then be.[1] Although it is impossible to say with any great degree of finality, the fact that the

[1]This is consistent with Porter's view of how specific industries within a nation gain a world-wide competitive advantage. Porter maintains that it is the overall level of efficiency in a specific industrial sector that is the driving force behind whatever competitive advantage an industry attains.

German economy is export-dependent and overwhelmingly so in knowledge-based niche industries — may be the underlying rationale for its different perspective on the need for an economically strong and progressive small business sector. In turn, the legitimacy of technological cooperation is one of the techniques for gaining competitive advantages in foreign markets. To the extent that 30% of the German economy is export-based, and to the extent that the *Mittelstand* account for 70% of German exports, promoting intense competition domestically between firms in similar or complementary industries does not appear either necessary or desirable. In like fashion, to return to an earlier point, failing to provide this sector of the economy of a wide range of public-goods would appear to be self-defeating. Germany's economic well-being is small business and export-dependent.[2]

Academic Biases

Why then does the German view of business differ so radically from the view that obtains in the U.S.? In order to answer this question, a potentially unpopular hypothesis needs to be advanced. This hypothesis would state that the biases underlying the differences in German versus American mind-sets *vis-à-vis* industry are reinforced, if not indeed overtly created, by the various formats in which business education is taught in the United States. The overwhelming emphasis in most business education programs in the U.S. is on the operations and management of large-scale businesses. With rare exceptions, the small business sector is ignored. Despite the fact that it has long been a significant element in our overall economy and now appears to be the locus for future U.S. economic growth, very few in the academic community address the needs of this sector of our economy. The root causes of this neglect are many and worth reviewing.

First, business education tends to be highly segmented with course work developed along rigidly defined disciplinary lines. Only rarely is the teaching of a specific subject, say of finance, related to that of the marketing, production or general management functions. As such, the student is exposed to well-defined bodies of knowledge which, in the academic context, have worlds of their own. But because academic research is more easily performed by observing and analyzing the large-scale firm on which information is more readily available, little or no emphasis is placed in this teaching on how the same functions are performed in the smaller business entity.

This bias is reinforced by the fact that the preferred pedagogy underlying most business education is inductively oriented, that is to say, it follows the intellectual process of moving from the specific case to a general law of behavior. For this educational outcome to obtain, however, comparisons are necessary and the large-scale business firm with its more formal organization is the best source for this data. In this context, the operation and management of the smaller firm is presented as being far more idiosyncratic than is either acceptable or otherwise justified by academic theory. More succinctly, it is extremely difficult to analyze the managerial style of a multi-hatted executive, a situation which of necessity obtains in most smaller firms because of their limited resources.

[2]Unlike the U.S., Germany has, with the exception of perhaps 3 or 4 years in the past 30 years, been able to maintain a positive trade balance and is second only to Japan in the level of its external financial holdings (see Appendix B). Although Germany is also a large importer of goods and service, it once again differs from the U.S. in kind. Based on recent figures, some 24% of the average American citizen's dollars are spent of foreign-made goods. Although the comparable figure in Germany may be just as high, the purchase of these goods do not entail continual foreign financing as in the case of the U.S.

Second, in concentrating on the large-scale firm the student gains exposure only to those firms that are believed to have sufficient resources to exert substantial power on society at large. As such, they appear to need no help from government in attaining their goals. Indeed, given the typical students exposure to such legal matters as corporate law and jurisprudence, the more general attitude developed is that government needs to restrain some of the activities of these firms lest they either flaunt the law, that is to say, they take advantage of externalities, or become too involved in the political process. In this context, the far different needs of the less politically powerful small-business sector are rarely, if ever, taken into consideration.

Perhaps even more important within the present economic climate in the U.S., the fact that this community will likely provide the new entrant with their first job is ignored by and large by both the political and academic communities. And, so it would seem, at a great cost pedagogically, politically and ultimately psychologically.

The same outcome does not obtain in Germany. First, German youth knows that much of their future is dependent on their attaining as much education as is possible, at an early age. In Germany, for example, a full 85% of all 17 year olds are still in school. Moreover, 50% of this age group are enrolled in vocational educational training and apprenticeship programs, a substantial portion of which are housed in and managed by *Mittelstand*-type firms. From an early age on, then, German youth — and perhaps more critically their parents — are aware of the role of the Chambers and the business community in providing them both with an education and a livelihood. Moreover, they fully understand the role the Chambers play in establishing and certifying the quality of work skills they have developed during their apprenticeship years. In recognition of this interdependency, the community at large is willing to actively support the needs of the industrial sector and, in particular, that of the small business sector.

That said, it must also be said that apprenticeship training programs are not a one-way street. Both the government and the business community encourage these high rates of participation noted above since the difference between an apprentice's wages and that of a skilled craftsman is substantial.[3] Because of this, industry may be able to take advantage of a workforce which is willing to learn new concepts but at a relatively minimal cost. Whether this supply of lower labor cost is one of the bases for the competitive advantage shown by some German industries is an issue that is not analyzed here. This factor notwithstanding, apprenticeships are highly structured programs of several years' duration. They include a combination of enterprise training, academic-type education and end with a standardized formal examination. Moreover, completion of apprenticeships constitutes only one stage in skill training. The classification of examination-certified vocational skills forms a continuum from the craftsman to the most highly trained engineer. And every trained craftsman has the opportunity to move along this continuum to advance his career.

A Two-Tier System?

The emphasis placed above on the role of vocational education in Germany should not, of course, be allowed to mask the fact that Germany has long had an extensive

[3]The lower cost of labor is very attractive for firms. Rather than hiring one fully skilled worker, they instead tend to hire two apprentices. At an early stage in the formal training process they learn quickly to perform increasingly difficult jobs. Since this is a perpetual process, the result is a highly trained and skilled labor force.

system of highly selective, tuition-free, high-quality universities. Moreover, reflecting the economic and political forces which shaped their organization in the late 1800s, these universities have placed great emphasis on scientific and engineering research and education. This latter orientation provides external support for the needs of the Chambers in that they can capitalize on the knowledge of university-based scientists and engineers to fund corporate research.[4]

More subtly, by developing a highly articulated *dual* educational system, Germany provides support, on the one hand, for the research and management-level needs of its larger scale industry while, on the other hand, providing for the intermediate skill levels that are the backbone of any highly industrialized nation. The long-term existence of a skills-certified labor force has influenced the internal organization and operations of German industry. To use a phrase now popular in American management circles, the German worker has long been "empowered", that is to say, allowed to make far more work-place decisions than their American counterpart. This, in turn, has allowed for less emphasis on middle management in the German industrial system than is typically found in the U.S. As with the un-investigated issue of the impact of apprenticeship wage scales on overall manufacturing costs, this issue of the relatively flat management organization favored by German industry has not been directly addressed in this research project. Notwithstanding this, the system can, and most likely does, contribute to the overall competitiveness of German industry by both reducing the channels of communication and related overhead expenses.

Industrial Policy and the Diffusion of Technology [5]

Germany thus has developed and integrated what must be regarded as a very dynamic and effective industrial policy serving the diverse needs of virtually all segments of its industrial base. Moreover, judging by the statistics on the work time lost in Germany to strikes, shut-outs and other forms of labor strife, this same policy clearly meets the needs of the German worker. What is not yet clear is the philosophy underlying this policy.

In this regard, and taking a clue from the work of Ergas, one can define two types of technology (industrial) policies; a "mission-oriented" and a "diffusion-oriented" policy. Mission-oriented research can be defined as "big science deployed to meet big problems".[6] Diffusion-oriented policies, by contrast, seek "to provide a broadly-based capacity for adjusting to technological change throughout the (entire) industrial structure".[7] Intriguingly enough, the U.S. Agricultural Extension Service is a prime example of a diffusion-oriented policy whereas the post-World War II emphasis on defense-oriented research in the U.S. is a prime example of a mission-oriented policy.[8]

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[4]A special feature of the German system is the role of the three large nonprofit research organizations in cooperative research. The *Fraunhofer Gesellschaft*, in particular, has 22 research centers, which have become increasingly involved in providing technical support to small and medium-size firms. The evidence suggests that the most intensive users of contract research are small and medium-sized firms with an internal research unit. On average, these firms spend 30% of their research budgets on contract research.

[5]For an excellent discussion of these matters, see Henry Ergas, "Does Technology Policy Matter?", in *Technology and Global Industry*, The National Academy Press, Washington, D.C. 1987.

[6]*Op. cit.*

[7]As the term implies, mission-oriented countries believe that they have an over-riding mission to fulfill. Defense research in the U.S. fits into this category. In like fashion, albeit with a different national goal or goals in mind, Japan

As illustrated by the German case, diffusion-oriented industrial policies rely on a top-to-bottom or "umbrella" approach for their overall effectiveness. At the top of the umbrella is the German government represented by the *Deutsche Industrie-und Handelstag*. The *DIHT* makes sure that training of workers in Germany — one among many techniques for diffusing technology — is carried out in accordance with prevailing laws. At the next level down is the Chamber of Commerce which implements the rules and regulations and provides the medium for implementing a broad range of economically-oriented programs. The individual small-to-medium-size companies which do the actual work are at the next level. They work with the Chambers on a broad range of issues of extreme interest to the business community and train young high school graduates. As this simple example illustrates, not only are the rules and regulations governing the *DIHT* diffused through the social and industrial system but, more importantly, an infrastructure is available for translating rules and regulations into positive and well-executed actions.

An Historical Framework

The underlying rationale for Germany's adoption of a primarily diffusion-oriented industrial policy can be found in a review of its recent history. Traditionally, business enterprise in pre-industrial Germany were organized around a large number of small-to-medium-sized firms with heavy emphasis on the crafts and the trades. Given the politically fractionated reality of what we now call Germany, there were a substantial number of social, political and economic barriers to the growth of these firms. Some were swept aside only after the unification of the various Germanies in the 1870s, and some remain even today.

More importantly, the growth of the large firms in the Wilhelmine day could be seen as consistent with the military and geopolitical needs of a unified Germany as first enunciated by Friedrich List (1789-1846). Large-scale industries then typified by the chemical, electrical, engineering and other knowledge-based industries, were able to lobby effectively for government support in developing and maintaining a science and engineering-based university system. Likewise they were influential in having the government build a public labor-oriented educational infrastructure that drew heavily for its design and implementation on the apprenticeship systems that first appeared in Germany after the 12th century.

The need to rapidly develop an industrial structure for the newly unified Germany followed on from its need to be able to protect itself militarily. This was, no doubt, one of the underlying rationales for the willingness of the Wilhelmine government to provide for a comprehensive, public-supported educational system geared to industrial needs. In the pre-unification days there was no one large national presence that

may be regarded as a classic example of a country hewing to a mission-oriented industrial policy if Japanese policy is viewed from the perspective of the actions taken by their MITI. In like fashion, France's earlier competitive goal of developing "national champions" can be cited as a case of a mission-oriented industrial policy. Notwithstanding this,and once again the U.S. is a good example, both mission and diffusion-oriented industrial policies must be implemented in any highly industrialized nation. The difference between national policies differs only in the relative emphasis they place on one or another of the policies (or techniques) described.

[8]The last time any member of the research staff had direct contact with the Agricultural Extension service was in the late 1940s. It is absolutely conceivable that the Extension Service no longer exists or that it has changed its mode of operation. However, at least through the 1940s, the Agricultural Extension Service was regarded as a world class example of an extremely efficient and effective technique for developing and maintaining a highly productive farm sector in the U.S.

could be seen as capable of protecting the German people economically, politically or militarily. The Wilhelmine government assumed that responsibility at a time when Germany's role as an industrial nation was, at best, conjectural. It needed to take extraordinary steps to protect itself against, among others, Great Britain and France, both of whom possessed a modern industrial base and a system of colonies in support of their overall geopolitical aims.

In theory, Germany could have then developed a mission-oriented approach to its underlying industrial development needs. However, given the current state of military technology and the need to defuse the normally socialist political tendencies of a significantly large element of the German population, a top-down decentralized approach to industrial development made sense, particularly for a newly formed nation that had to play "catch up" ball were it to survive economically and militarily.[9] Although it is probably impossible to prove, the agrarian orientation of the ruling *Junker* class may well have influenced much of the philosophy underlying the development of a specifically German approach to industrial development. Ultimately, the dominant military class was drawn from a relatively impoverished landed class that, no doubt, felt more at home in the trades-oriented small business sector with which it had grown up, than it did with the increasingly powerful industrial magnate.

A more economically-oriented rationale for the development of the system can be found in an analysis of the business development process in a Europe, which, unlike the U.S., consists of a large number of small countries, each of which are reasonably well dedicated to protecting their own markets. Given this factor, there is a natural limit to the need for large, economies-of-scale oriented businesses, and especially those whose basic business is in commodity-type products such as industrial chemicals, steel and other world-market products.

The solution to this problem then lies in the development of more moderately-sized product-specialized business enterprises that can rely for their ultimate efficiency on a network of similarly-sized and similarly product-specialized businesses.[10] To a great extent, this was the requirement that led to the ultimate development in Germany of the *mittelständische Industrie*.

There are, of course, a number of precedent factors essential for the successful development of this model of industrial behavior. The first is a heavy emphasis on engineering and, in particular, the adoption of a modular design-approach to a family of products. In American terms, there is a need to reduce the economic ordering quantity to as close to one unit as is possible. A second precedent factor is the adoption and implementation of a set of nationally accepted product and manufacturing

[9]To create decentralization for engineering-based industries, Germany needed to resolve three major problems. First, the industry needed to draw from an externally trained pool of skilled labor, since no single small or medium-sized firm could efficiently rely on its internal labor market alone. Second, it had to reduce the transaction costs associated with the production of components which were close complements from an economic viewpoint, e.g., nuts and bolts. Third, there had to be ways of keeping firms informed on technological developments. The Government had to make sure that the positive results of technical advancement were disseminated.

[10]The core logic of the system of order is as follows. Firms agree to specialize in particular product lines and coordinate their choice of specialties with other firms in the same branch. The aim is to make sure that nobody produces commodities that will overlap with another firm's product market. Furthermore, institutions that serve all in the industry are constructed to help compensate for the added risk each individual producer incurs from specialization. Indeed, after a repeated exposure to extreme competition during industrialization, producers realized that, if they were going to profit from their flexibility, they would have to control it in some way. Institutions among firms and in society were

standards. The third precedent factor is the availability of a labor force with ratified skills. Last, we would allege that there has to be a social context that suits this type of industrial development; that economic factors are a necessity but, by themselves, an insufficient motivation. Here the German perception of the small business as an extended family is a factor that cannot be ignored. For this type of economic organization to evolve, a local craftsman or businessman who by tradition are committed to the well-being of their community are essential. Whether this commitment is based on a sense of *noblesse oblige* or a more selfish desire to maintain the political and social *status quo* is unimportant, just so long as it is the dominating ethic.

Industrial Policy Revisited

Given the high degree of decentralization found in the German economy, to wit, the respective roles of government, the system of quasi-public corporations, a codified legal code, and an educational system heavily geared to the needs of industry, the precise boundaries of German industrial policy are blurred. Notwithstanding this, it is obvious that Germany has adopted a pro-active industrial policy and, moreover, that no attempt will be made to dismantle the system in the years to come.

Admittedly, it is safe to assume that these policies will be modified as the German industrial structure adapts to such factors as the globalization of much of the world's economy, changing technological and market realities, and stresses and strains in its domestic social and economic institutions and systems. But the German predilection for established and well enunciated policies will remain, since a substantial portion of the philosophy and practice underlying these policies have deep roots in the German industrial organization, in German management practices, and in German history. In this regard, it is worthwhile to note that most top-level German executives, whether in the larger corporations or in the *Mittelstand*, are educated primarily in the sciences and in engineering disciplines. Their natural biases, then, orient them to the needs of the engineering and science-based industries in which German industry has long excelled. To the extent that they continue to influence national policy, it seems safe to assume that they will lay stress on the provision of those public goods that best meet the needs of technology-based industrial enterprises. Although German industry may not have been as adept as either its American or Japanese counterparts in the development of electronics-based industries, and may indeed have fallen behind in these fields, it has been aggressively successful in adapting these technologies to its manufacturing and process-oriented industries. Like the Japanese, the Germans have taken distinct advantage of the transparency of much U.S.-based research. This is an outcome that appears to be consistent with the intellectual backgrounds of a significantly large number of German managers and executives.

Returning more pointedly to the issue of German industrial policy, and a comparison of this policy with U.S. practices, it

created that channeled flexibility into specialization and socialized risk. The focus of German industrialization in the mid-to-late 1800s was engineering-based industries; specifically the chemical, electric and mechanical engineering industries. In our research effort, we uncovered no explanations for the German emphasis on these industries, nor do we know of any natural advantage that the Germans may have had in this regard. However, the reasons are less important than the fact that German industry was organized to a great extent around engineering-based industries. It was these industries in particular that lobbied for the German educational system, for the creation of the German system of standards.

seems evident that the German industrial policy can be made more transparent by analyzing the content of those goods and services that the government elects to provide through the public sector. Briefly, these goods are: a two-tiered educational system; the infrastructure needed to guarantee product and process standardization; a moderated view of the virtues of price competition within a relatively small and specialized economy; and the enfranchising of quasi-public institutions such as the Chambers of Commerce and Trade.[11] In this regard, it is evident that the German industrial policy has been designed to socialize much of the business and financial risks normally encountered by the business enterprise. To the best of our knowledge, the U.S. has not acted in a similar fashion, and is unlikely to do so in the foreseeable future.

The reasoning behind this last statement is quite straight-forward. With the possible exception of the educational component, the U.S. has no system of institutions sufficiently similar to that of Germany that might allow for the formation and implementation in the U.S. of an industrial policy.[12] And even in the instance of education, the U.S. system as it is now organized and governed could not, except in the long term, be modified in a way that even remotely resembled the German model. Our governmental organization is different, our perception of what constitutes a legitimate public good is different, our patterns of belief are different, our history is different, and our role in the world economy — at least for the time being — diverges greatly from that of the German model. Organizationally, the U.S. has placed far greater emphasis on the development and maintenance of large-scale industrial firms as the core of its economy.[13] Although the relative power of the Fortune 500 appears to have diminished over the past ten to fifteen years, it is far too early in time to write off this sector of the economy. Should the U.S. economy become as buoyant in the latter part of the 1990s as is now forecast, it is likely that this outcome will be reflected in the growth in the size and positioning of the large-scale U.S. firm.

In keeping with the above and the overall size of the U.S. economy, U.S. management practice has placed far greater emphasis on mass production techniques than have either the Germans or the Japanese. This predilection, however, has begun to change as the U.S. has started to adopt some of the "best practices" pioneered in the post-World War II period by the Germans and the Japanese. There is now a growing emphasis in the U.S. on redesigning and reengineering at both the product and production process level; and a growing emphasis on modular design and production systems driven by consumer demand for differentiated products.

Conversely, the overall size of the U.S. manufacturing base has continued to decline both as the result of foreign competition and the movement of U.S.-based pro-

[11]The Federal Ministry of Economics has in recent years introduced programs to help finance the employment of research scientists and engineers in small and medium-size firms. Recent assessments suggest that the program has been most successful and that about 10% of all eligible firms participate.

[12]This is not entirely so. The massive funding of the defense industries in the U.S. can be seen as an industrial policy built on mission-oriented concepts. This view, however, is normally taken by analysts with a distinctly anti-militarist bias and is, as such, rejected out of hand by most analysts and commentators. For reasons of our own, most Americans appear to eschew the notion of industrial policy, believing that the Federal government does not have the capability either of developing or implementing such a policy.

[13]As have the Japanese and, in a more open and aggressive manner, the French with their espoused industrial goal of developing *national champions.*

duction to cheaper sites overseas.[14] This loss in employment, however, has been offset by the growth of service industries. Well beyond the scope of this research effort is the long-term impact of non-Japanese Asian nations on the manufacturing industries of all countries. Given the vast differentials in wage scales between Asia, and both Europe and the U.S.,[15] *the manufacturing industries* of the older developed nations may not be able to retain their competitive edge in the future. A possible exception is if a national effort is made to create either new forms of industrial organizations or modify the techniques by which the individual business firm gains and maintains a critical competitive advantage. In this regard, albeit based on the subjectively analyzed results of admittedly limited field research, it would appear that German industry has made some interesting strides by adopting a comparatively unique approach to the globalization problem.

For example, there are a significantly large number of small-to-medium-size German firms with foreign-based subsidiaries, most notably in the U.S. Among their many motivations for entering the U.S. market was their desire to learn how to compete with the Japanese *but* on someone else's turf.[16] Put more succinctly, German industry watched carefully as the Japanese made significant inroads into U.S. markets. They then invested the funds needed to be "where the action" was as a first step in developing potential responses to Japanese competition *per se*. Although only time will tell, there is evidence that they have accomplished many of their learning-based goals.

Additionally, many of the German firms established U.S.-based subsidiaries in order to take advantage of the decreasing vitality of the U.S. manufacturing sector! In some instances, they took over markets previously controlled by U.S.-based firms, more often than not in those industries that were no longer willing or able to make the required long-term investments in capital and labor. In other instances, they bought out U.S. firms and entered foreign markets previously ignored by U.S. managers. Where American technology proved to be the equal of German technology, they adopted the American practices as their own. They used German technology where it was superior. More critically, and somewhat as an adaptation of the *dicta of Say's Law*, many of these German firms recognized the need for products not otherwise available in the U.S., and by developing the supplier-base created a demand for these products. In keeping with Japan's earlier strategy, many of the expatriate German firms concentrated in those industrial segments that lacked the political power needed to draw in-time attention to the growing base of foreign competitors. In virtually all instances, however, they did it in industries where they enjoyed a core competency-based competitive advantage.

Most significantly, and unlike their American counterparts, the German *Mittelstand* firm has not hesitated to either create or otherwise exploit foreign opportunities. As such, and in keeping with the intuited mandates of the German industrial policy, they have diffused the benefits of foreign competition throughout both large and small-scale German firms. Equally significant is the fact that the small-to-medium-size German firm, *the backbone of employment levels both in the U.S. and Germany*, now has the

[14]Germany has now begun to do the same thing. In the past few years, both *Daimler (Mercedes) Benz* and BMW have established assembly operations in the U.S. because of the lower costs of labor that now obtain here.

[15]See Jensen, *op. cit.*

[16]*USA: Expectations and Realities*, Landesgirokasse, Stuttgart, 1992. A report prepared for them by Arthur Anderson and Co., *GmbH.*

knowledge and expertise needed to allow them to move with the marketplace. They have learned how to adapt their management systems, products and labor-based technical skills to the realities of a multiplicity of geographical markets.

It is impossible, of course, to determine how much of this outcome represents the uncoordinated effort of the individual German business enterprise and how much is the result of the German industrial policy. Indeed, worrying about that issue is unproductive. The more important task in this regard is an analysis of the steps that might be taken by the U.S. to accomplish some of these self-same goals and, in particular, to develop an internationally capable and adroit small-to-medium-size business sector. A high level of employment in the U.S. -and at wage levels consistent with an acceptable standard of living — is dependent on the continued growth of this sector of our economy. Although it is reasonably obvious that the German model cannot be adopted by the U.S., it is also obvious that a fuller understanding of its elements may yield critical insights into the type of actions that American industry can and should undertake in the future. In the post-World War II period, Japanese and German industries gained immeasurably from analyses and adaptations of American managerial practices. Given their industrial successes, a better understanding of how they applied what they learned from us can only be a worthwhile investment in the future.

Competition Theory and Practices

Here, once again, a bit of history is relevant. First, Germany has long had, and still does have, a "crafts" tradition. The history traces back to the 12th century and the so-called *Hanse Guilds*. Indeed, one can trace the initial German emphasis on apprenticeship programs back to that time, should the subject be of more than passing interest. More centrally, one of the reasons for the merchants' formation of the Guilds was their desire to keep price competition within bounds; to not let a buyer play off one seller against another. In modern parlance, to form a cartel in order to stabilize prices!

More recent German legislation notwithstanding, cartel pricing is still common in Germany. The underlying rationale is not solely economic but also ideological. Given the continuing emphasis in Germany on the cultivation of a very vibrant small business sector (the so-called *mittelständische Industrie*) and the collaboration that is required between these firms if they are to remain competitive internationally, price competition as we know it in the U.S. is quite mute. As such, one does not normally try to play one German manufacturer off against another; that is simply not their tradition. Moreover, given that the overall structure of the German industry is geared to the universal manufacturing-standards system noted above, they may be acting as subcontractors to each other on the product. As such, they view stringent price-based competition as a no-win game and avoid it fastidiously. This collaborative effort has also allowed for the development of German manufacturing procedures that provide relatively small firms with the ability to attain needed economies of scale while still obtaining the type of product diversification required to successfully compete in international markets. Further, by promoting specialization, the national standards can help to reduce the capital requirements of the individual firm by spreading capital (machinery) costs over a broader base of firms and specialties. German industry survives more by collaboration than by competition: an approach relatively somewhat diametrically opposed to the American view of industrial behavior.

This behavior should not be regarded as venal, as it might well be in the U.S. First, more so than their American counterparts, the German industry takes cost into consideration when determining price. In technical terms, the Germans do not necessarily view price as a market clearing device. Rather they adhere, if only implicitly, to a different economic ideology than Americans. This is not to say that Germany is not committed to a free market economy. Indeed it is. But Germany is also committed to a social system which believes that industry has a key role to play in maintaining social stability; that is to say, job security and a capital formation process geared in great part to maintaining the social welfare net which is one of the hallmarks of German social and economic organization.

Once again, a review of German accounting practices is quite revealing. Most generally, the pension funds for which a German firm is obligated are shown as an asset on the balance sheet. In general, this means that any future pension for which the firm may be responsible will be paid for out of current income and not some hidden stack of cash and/or investments. In an environment such as this, no one is served by intense price-oriented competition, American economic theory notwithstanding. Whether German economic beliefs are better or worse than American beliefs is not the topic of discussion here. There are arguments on both sides of the fence with the argument weighted in favor or against one of the two systems depending on the then-state of the respective economies. As of early 1994, it appears that the U.S. approach, at least in-so-far as job creation is concerned, is superior. In the final analysis, however, the discussion is a moot one, since the view on the relative efficiency of economic systems appears to change with the various phases of the business cycle. When the U.S. is at a low ebb economically, the German and Japanese system look quite commendable. When their economies are in a turmoil, the more entrepreneurial social and economic systems of the U.S. look superior. Given this, the more rational approach would be to recognize that they are different, adapt to these differences, and leave the argument on superiority-inferiority to the academic community. The more obvious truth is that the industrial system of the U.S., Germany and Japan function well albeit at the expense of having to be overhauled or otherwise repaired from time to time.

Quality versus Utility

In order to survive economically, Germany must export. This is not only true now, but has been true for a hundred years or more. Initially, the only way that German industry could make its way into world markets was to concentrate on high value-added products. And this they did with a vengeance starting in the mid-1800s. Many of these policies are, by the way, rooted in geopolitics. For the Bismarckian unification of non-Austrian Germany to be more than a passing fancy, the newly united nation had to rapidly develop an industrial base that could provide the funds needed to support German defense policies, to wit, to be able to defend itself militarily against any and all foreign interlopers. Apparently there were lots of these around in the 1800s, and especially so when wars were fought in a Clausewitzian style with small armies reasonably distant from the civilian population. Total war, as we unfortunately know it, had not yet been invented.

Because of this, and because Germany did not have foreign colonies like many of its potential adversaries, the Germany of the middle to late 1800s was forced to develop export-oriented, knowledge-based, high value-added industries in order to survive

politically and economically. Germany did this, and it is this type of industry, along with the craft industries mentioned earlier, that has formed the basis for a modern German economy. In this context, then, a strong emphasis on product quality must be an integral part of the overall competitive strategy of the German industry.

Here an interesting note on American financial theory may be illustrative. By adopting the type of capital budgeting techniques pioneered by the academic finance and economic communities, and accepting the market-based cost of capital criterion that are an integral part of the U.S.-version of this system of thought, U.S. management has effectively modified the rationale underlying continuing investments in plant and equipment. In a sense — and the concept is not an easy one to follow — by substituting market-driven criteria for firm-specific criteria, American management has come to view the corporation less as a "legal person" than as a forum for portfolio-based investments. The Germans, to the contrary, still take the opposing view, to wit, that the corporation is a legal person with a life of its own and, as such, must be protected, market-based measures of corporate performance notwithstanding.

One of the outcomes of differences, in what are admittedly psychologically-based perceptions of acceptable corporate behavior, is the willingness of the German (and Japanese, for that matter) manager to make investments that require a longer time to pay back than is generally acceptable in the U.S. A very technical argument using capital budget theory would suggest that the reason for this is straight forward; that the cost of capital (at least until recently) in both Germany and Japan has been significantly less than that found in the U.S., and thus allows for a longer payback period. To the extent that there are differences in the cost of capital, this argument rings true. However, there are some well-reasoned analyses that suggest that there is not now, and possibly has never been, a significant difference between the cost of capital in the three major industrial nations of the world, and that the differences in observed behavior between the U.S. and Germany are reflective primarily of differing managerial beliefs and practices. As such, the quality of the equipment that they are buying must by tradition be of a higher grade, and hence of a greater cost, than would be acceptable to their American counterparts. And so must be the products manufactured on this equipment, if only as a partial basis for justifying the larger initial investment in the required machinery.

If the above argument holds true, then the German propensity for manufacturing high-quality products is imbedded in the managerial theory and thought processes underlying German industrial behavior. Put simply, German industry would find it hard to skimp on product quality as the primary step in reducing price and, in this context, becoming more competitive in world markets. They would also have difficulty understanding a customer who was willing to make this type of trade-off. As has already happened in specific industries in the U.S., foreign competition may ultimately force them into this position. But they will not go willingly because doing so would contradict their long-held belief about producing products whose overall utility and life-cycle savings to the customer are reasonably greater than the price being charged for this product.

Corporate Governance and the Capital Markets

In keeping with Germanic tradition of the small family-owned business, not only are there very few large firms in Germany, but

there are also relatively few publicly traded firms. For example, there are only about 38 or 39 German firms listed among the 1,000 largest firms in the world. The comparative figure for the U.S. and Japan is about 350 and 300 respectively. Moreover, fully half of the German listing is taken up by the banking community.

Moreover, although there are 2,000 firms incorporated as *AGs*, that is to say firms whose shares could be publicly traded if the stockholders or management so elected, only about 450 are listed for trading on the various German stock exchanges. The relevant figure for the U.S. and Japan are estimated to be approximately 6,000 and 3,000 respectively.

Because of these two factors, the very limited number of large-scale German firms, and the relatively modest number of firms with listing on the stock exchange, the influence of capital market-based criterion for judging corporate performance is nowhere near as persuasive in Germany as it is in the U.S. Instead, internally-oriented measures dominate.

Of these measures, *corporate stability and perpetuity* are the most prized. It is this attitude that underlies the German willingness to make the type of long-term investment oftentimes eschewed by American management. For example, the available evidence would suggest strongly that German industry is willing to sacrifice short-term stockholder returns and profits and concentrate on overall business growth and market share when it believes that these are the best long-term policies to pursue. Given German managerial traditions, the absence of a U.S.-style stock market, and the patterns of ownership of German firms, the more likely decision variable in situations where a trade-off is required will be on appropriate but predictable returns to the various stakeholder groups that comprise the modern German corporation. It is the rare German businessman, for example, who would "grow" a firm with the intention of eventually selling this firm to a larger, publicly held entity. Family ownership, and a continuing commitment to the local community is still a German tradition.

A relevant question today is whether or not the German form of capitalism with its continuing emphasis on the private ownership of industry and a *mittelständische format* can withstand the growing pressures of foreign competition and the costs of German unification. There are those who believe that the German industry must move in the direction of American-style capitalism in order to survive. However, for this to happen there would have to be a major change in German political and social ideologies along with concomitant changes in German public and corporate law. As of the moment, these changes do not appear to be forthcoming, nor is there any persuasive rational available for suggesting that the German model of capitalism must go through a major revision if it is to survive.

Here international data on the changes in the purchasing power of the "typical wage earner" are quite revealing. Between 1985 and 1992, real wages in western Germany rose by 20.6%; in Austria, the rate of increase was 19.3%; for Japan, the corresponding figure was 12%; the overall increase in France, Italy and the Netherlands was between 5% and 6%. *The U.S., to the contrary, recorded a net wage decline of 8% for the so-called "typical worker".*[17]

The rapid rise in real German income noted above has, we would maintain, built a de-

[17] *The Week in Germany*, March 11, 1994.

gree of slack into the German economy that may not have previously existed. Provided that the national will is strong enough, this slack should allow Germany to absorb some of the costs incurred in unification and to stabilize German industry's competitive position world-wide during the next few years. Initial steps leading to this goal have already been taken, although it is still too early to predict the outcome of this effort.

The *mittelständische Industrie* and the Globalization of German Industry.

Perhaps the most significant difference between German and U.S. industrial structure can be found in the German emphasis on the small-to-medium-sized firm as the backbone of its economy. It is these firms, for the most part family-owned and family managed, that account for some 70% of German exports. The equivalent figure for the U.S. has been estimated at approximately 10%.

Inasmuch as Germany with an economy one-fourth the size of the U.S. competes for first rank in the overall size of its export markets with the U.S., the dominant role that exports play in the German economy (some 30% of G.D.P) and the dominant role played by the *mittelständische Industrie* are strikingly evident. In essence, it is this group of firms, along with a limited number of large-scale corporations, that has been at the forefront of the early "globalization" of German industry. Moreover, that these smaller firms have developed a three-pronged strategy in pursuit of these goals.

The first of these elements is the emphasis on high-value added niche markets worldwide. The second of these elements is the export of goods and services directly from Germany. The last of the three elements of the overall strategy is the development of a world-wide network of foreign-based subsidiaries. For example, it is estimated that these small-to-medium-size German firms have established no less than 1,300 subsidiaries in the U.S., a significant number of which maintain and operate manufacturing facilities with sales bases ranging in size from two or three to well in excess of one-hundred million dollars per year. Their presence in other nations is equally evident but not yet as pervasive as in the U.S. It is this organized presence that has allowed German industry to maintain its significant presence in world markets. Additionally, at least in the instance of the U.S., it is this organized presence that provides German industry with a readily available and flexible production base that can offset price and cost differentials between its domestic and its foreign markets, should this prove to be necessary.

It is worthwhile to note that a significant number of the American-based subsidiaries of German firms have been, and plan to remain, involved in the production of military goods. Moreover, because of German export restrictions, a number of these firms reportedly plan to switch significant elements of their military-based output from Germany proper to their U.S. subsidiaries.

Legislative Oversight of Defense Industries

Here the key difference between the two countries is the virtual lack of legislative oversight of the acquisition process in Germany once it has been funded by the Federal Government. As such, German industry has great difficulty in understanding the many rules and regulations that surround the acquisition process in the U.S. For example:

(a) Most German programs are funded on a multi-year basis, once a contractual commitment has been made by the buying agency. German industry assumes that it will be followed to the letter of the law, and that there will be no interruption in either the production schedule or the funding profile.
(b) German accounting rules and regulations are far more relaxed than their U.S. counterpart. Foremost is the fact that there are no "Generally Accepted Accounting Principles" in Germany as there are in the U.S. This does not mean that the Germans are less rigorous in accounting for their operations than are the Americans, but rather that German industry has greater flexibility in how they do their accounting, for example in the setting up of what are called "hidden reserves". Moreover, the German system allows the routinely prepared corporate reports to be used for tax purposes, separate formats used in the U.S. The implication of this is self-evident. German firms do not use different accounting standards or methodologies in accounting for their defense *vis-à-vis* their civilian businesses. Moreover, they find it difficult to understand why two different accounting procedures have to be used.
(c) This then means that any departure from the German norm must be negotiated in *advance* by the American buyer.

In this instance, the difference in legal systems will come into play. German law is codified. The key difference between U.S. and German practice here is that the legislature creates the laws in Germany, as opposed to the more common U.S. practice of judicially-created law. Given this codification along with a universal system of industrial standards, German contracts are usually quite short in length. The law is the law, and nothing further needs to be said! As an interesting commentary on this facet of the German system, it is worthwhile to note that the German military acquisition process relies on approximately 150 contracting officers, virtually all of whom are lawyers by education, the generalist form of education in Germany. For them to accomplish their jobs, the pertinent acquisition regulations must be relatively few in number, not subject to a great degree of interpretation and, moreover, backed up by a relatively standardized way of doing business.

Summing Up

Although not initially conceived as such, the matrix in Appendix A can be used as a map for locating and describing a number of the institutional systems and forces that make up the German economy. To do this, a more broadly-based view of the German system was developed. The reasoning here was simple: a good portion of economic behavior has psychological roots - specifically the psychological need to satisfy wants. The systems that evolve to satisfy these needs will, in turn, be reflective of national ideologies and the political realities created by these ideologies. This situation is no less true for the U.S. than it is for Germany. It is for this reason that the scope of the matrix was broadened to include a larger number of elements than was initially planned. All of these elements have not been discussed in this brief summary. This omission notwithstanding, because of the symbiotic relationship that exists between each of these elements, an understanding of each of these elements is critical to an understanding of German industrial organization and behavior.

7

THE DOWN-SIZING PROBLEM REVISITED

Introduction

When this project was initiated in 1991, it was reasonably obvious that the defense industries in both the United States (U.S.) and Germany would have to adapt to the relatively rapid reductions in the size of the defense budgets of their respective nations. What was not known was the specifics of how the adaptation process would play out in each country. To some extent, the full story has not yet been written, at least not in the U. S.

In the instance of Germany, the scale-down in defense acquisition budgets began as early as 1987. By 1992, industry's response to the scale-down was reasonably well completed. Most of the German firms interviewed in the initial phases of this project had already reduced the size of the defense-based business divisions and were switching resources to civilian markets in which they had seasoned capabilities (see Volume 3). Since Germany does not have a defense industry as such, the adjustment process was relatively painless.[1] No firm likes to lose sales and/or profits, but where these sales, as in Germany's case, account for less than 10% of overall sales volume, the transition process poses no threat to corporate perpetuity.

The same cannot be said for the large number of business firms in the U.S. that were then, and even now, heavily dependent on military sales. As expected, a number of the small-to-medium-size firms in the industry have been forced to down-size their defense-related business operations: a number of these firms have simply closed their doors!

Conversely, some of the large-scale defense firms had sufficient resources to allow them to adapt to a changed marketplace. The most notable trend here has been to consolidate firms such as General Electric and General Dynamics by selling off a number of their defense-oriented businesses to firms such as Martin-Marietta and Loral. Given this, there has been a significant shrinkage in the number of large-scale defense contractors in the U.S. As a result of this consolidation process, it now appears that the technological base developed and maintained by the large-scale firm has been, and will continue to be, preserved.[2]

Interestingly enough, the same sort of consolidation effort occurred earlier in Europe, albeit on a transnational basis.[3] What is not yet evident in the U.S. is the ability of these

[1] Hermann O. Pfrengle, "Defense Industry Conversion in Germany," German Liaison Office for Defense Material, U.S.A./Canada, January 1994.

[2] A large number of jobs within the defense industry will be eliminated, especially as the operations of the newly consolidated firms are "rationalized". To some extent, this should result in cost savings available to the Department of Defense (DoD) as economies of scale in development, managerial and other corporate functions are realized. Conversely, the consolidation should lead to a less competitive environment within the defense industry as the number of individual firms capable of responding to defense requirements shrink.

[3] See James, B. Steinberg, *The Transformation of the European Defense Industry*, Rand Report R-4141-ACQ. See also Volume 3 of this series.

large-scale firms to maintain a production capability of the size and vitality needed, should there be a change in the military threat. In this regard, the evidence developed in Volume 1 would suggest a significant erosion in domestic, as opposed to foreign, manufacturing capabilities.

Since the strategic options available to a business are normally a function of its size, product diversity and core competencies, the small-to-medium-size firm does not have as many options available to it as does the large-scale firm. Given this reality, a multi-faceted review of the down-sizing process is essential. Each of the three elements of the industry needs to be considered separately: the large-scale defense firm; the small scale defense firm; and the defense industrial base firm as previously defined.

The Conversion and Reconstitution Issue

Before taking a segmented view of the down-sizing process, a brief reprise on the conversion issue is essential. Since the scale-down in defense budgets in Germany began earlier than in the U.S., by 1991 the German firms included in our survey were already well along in the conversion process. Here they had an advantage over their American counterparts. First, a significant number of the German firms were already deeply engaged in commercial markets. As such, they had a distinct advantage over their American counterparts inasmuch as they were looking to expand in markets where they had extensive current knowledge, experience and, most importantly, established positions.

Second, unlike the large number of American firms that must develop new core competencies and markets if they are to remain in business, the German firm was and is able to draw upon existing strengths. Because of this, the scale-down in defense budgets has not and will not have as dramatic an impact on German industry and labor as it will on their U.S. counterparts.[4]

In so far as the potential reconstitution of the American and German defense industrial capability is concerned, the results of this research would suggest strongly that German industry should be better able than its American counterpart to respond to a renewed military threat. This projected outcome is due to the continuing emphasis placed in the German economy on manufacturing and manufacturing-related industries, and to the general stability of the labor force engaged in these industries.[5]

However, for both countries, it will take from one to five years to rebuild the technological and manufacturing base needed to produce specific weapon systems. The potential bottleneck here is at the level of the small-to-medium-size firm that, at

[4]As a result of the unification of Germany and the widespread recession in Europe, the sales and profit results realized by German industry since 1991 have suffered. This outcome, however, is neither traceable nor attributable to the scale-down in German defense budgets. Moreover, at least some portion of the recessionary trends in the German economy are the result of the anti-inflationary monetary policies invoked by the German *Bundesbank*.

[5]The conclusions here are possibly overstated. One of the problems encountered in any discussion of the reconstitution possibility is the fact that defense production is highly diffused throughout the economy, the large-scale defense firm notwithstanding. Based on the data presented in Volume I, it is likely that there are more than 20,000 firms ultimately involved in providing parts, components and services for the Abrams tank. Although we have no way of knowing directly, the same number of firms may ultimately share in the production of the German Leopard tank. Given these numbers, there is no way of knowing where and when bottlenecks might occur if tank production were to be reconstituted in the U.S. or in Germany. Obviously this same analysis applies to other major weapon systems, many of which are more complex to produce than either an American or German tank.

least in the U.S., is the locus for a substantial portion of the production of manufactured parts, components and sub-systems.

Notwithstanding this, it is now believed that the German industry will be able to respond more quickly to a renewed military threat than will the American industry. This conclusion is heavily weighted by the fact that Germany possesses a more highly trained and skilled manufacturing labor force than does the U.S.[6] Moreover, as part of a well-defined industrial policy, Germany will continue to train this labor force to emerging technological standards. The U.S. has no formal mechanism for accomplishing the same goal.

The Large-Scale Defense Firm

Many of the large-scale defense contractors have already down-sized their business operations, some by reducing the size of their labor force and other controllable financial and organizational commitments, and others by selling off divisions and/or businesses to other large-scale defense firms. Explicit in these efforts has been the commitment of a number of these firms to avoid diversifying into commercial markets.

In sum, the large-scale defense contractors have signalled their intention to remain in the defense industry; as smaller companies if they are not able or otherwise unwilling to acquire other firms; or as larger firms if they have the capital and managerial base needed to participate in the mergers and acquisition market. The oftentimes expressed corporate goal of not attempting to enter commercial markets reflects strategic assessments made by their management about the core capabilities of the companies that they manage and the apparent lack of commercial applications that these companies use for technology. The decision also reflects corporate managements' knowledge of previous commercialization efforts by major defense contractors, virtually none of which were successful despite the relative buoyancy of the economy in the post-Vietnam period.

Thus, the larger defense firms are downsizing consistent with their analysis of what they believe they can successfully compete for in the defense budget. Corporate perpetuity rather than a continuing growth in the size of the sales base has become the major factor in the managerial decision-making process, a rather significant difference from the corporate policies pursued in previous years. From a methodological

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Adding complexity to the problem is the fact that military planners do not generally understand industrial operations and are thus susceptible to misunderstanding the complexities of the production process. This is not a criticism but a simple statement of fact. They have been trained to other responsibilities despite the fact that the military production is, of necessity, heavily involved in industrial processes.

Except, then, as industrial base research is focused on key elements of a specific weapon system, there is probably no reasonable way of gauging the time and effort needed to reconstitute the various elements of a nation's defense industrial base. The best that can be said is that it will take an extremely long time for all countries to accomplish the task and that it most likely cannot be done surreptitiously. In this regard, an industrial intelligence system geared to an early-warning system may be the more critical element in the overall process.

[6]Systemically, this may not be so for high production rate consumer goods such as cars, household appliances, and other consumer-oriented manufacturing-based products. Here the U.S. currently and prospectively has a labor cost advantage over Germany and, if only momentarily, a "managerial systems" advantage. However, weapon systems are not normally produced in quantities sufficient to allow for the type of efficiency-oriented machinery and manufacturing processes normally employed in civilian industry. Instead, the manufacturing process as such is more oriented toward high-tolerance custom-built products where the background and skill of the labor force is more critical than in mass-produced civilian goods. Except as it is possible to plan for the automated production of the many parts, components and sub-systems that go into the ultimate production and/or assembly of weapon systems, the German emphasis on a skilled labor force is apt to be the more critical variable in so far as the reconstitution of a defense production capability is concerned.

point of view, it is likely that a direct analytical connection could be made between the number of its outstanding shares repurchased by a firm over the past two to three years and management's estimate of the future sales potential of their respective companies.

In this regard, it would appear worthwhile to survey management for their views on the DoD's plans to focus on research-and-development activities, and otherwise limit the funds allocated for the purchase of weapon systems. If the repurchase of their shares reduces the size of the capital base needed to sustain a desired production capability, the down-sizing process may have some unexpected but notable second-order consequences to which the DoD will need to be responsive. Here there are trade-offs that go to the heart of an earlier discussion of "producer nations," "user nations" and the creation and maintenance of "intellectual property" in the defense industries.[7] Here, it now seems evident that the intention of the DoD is to protect the scientific and technological base on which the defense acquisition process relies: on the assumption that the manufacturing capability needed to turn design into deployable products will remain relatively intact. The available evidence would now suggest that this may be a high-risk policy, except as a newly emergent threat takes from three to five years to mature. This latter subject is, of course, beyond the scope of this analysis.

The Small Defense Firm

For the smaller defense firm, the future is quite insecure. First, most small defense firms function as manufacturing-based subcontractors to the larger firms. As such, historically they have had very little ability to compete for the type of Research and Development (R&D) funding that is to be the keystone of future defense budgets. Moreover, in a decreasing market, it is more than likely that the larger firm will elect to do more manufacturing in-house than in the past.

Second, very few small firms have the type of proprietary product or knowledge needed to provide them with strategic options in a down-sizing market. As such, they can expect their total sales base to decrease along with the size of the defense budget. For the small defense firm, then, the more critical question has to do with the actions that they can take to insure corporate perpetuity.

Third, although going commercial is an option theoretically available to the small firm, this is practically impossible; except as they have developed a suitable commercial product line; have the managerial knowledge that allows them to operate to in highly competitive commercial markets; and have the investment funds needed to gain profitable access to these markets. Given these requirements, conversion to civilian production may be close to impossible for the small defense firm.

Finally, the small firm trying to survive either in the defense industry, or even just long enough to convert to civilian production, faces an uncomfortable reality. If the small defense firm is forced to accept not only a smaller sales base but reduced prices as well, the problem of corporate perpetuity is compounded. Most business firms can more readily adapt to a 10% reduction in sales than to a 10% reduction in price.[8]

[7]See Volume I for a discussion of these terms.

[8]The mathematics here are relatively straightforward. Take a firm with sales of 100, variable costs of 60, fixed costs of 30, and profits of 10. A 10% reduction in sales holding other factors constant will reduce profits to 6. A 10% reduction in price holding other factors constant will reduce profits to 0. For a more comprehensive explanation of these relationships, see any college-level text on cost or managerial accounting.

Where both outcomes happen simultaneously, the financial lifeline of the firm is seriously threatened. If past history is any guide, it seems reasonable to assume that competition will become destructively severe in those defense sectors normally dominated by the small business sector. This is the impact of competition within a shrinking market place.

The Defense Industrial Base Firm

The position of the large firm that derives a relatively small portion of its sales from defense procurement is somewhat analogous to that of the large defense contractor. These firms will suffer a loss in sales and profits as the market for defense goods lessens. However, for the large-scale diversified firm, this will not be a life threatening experience. This, of course, is subject to one important caveat.

For the defense-oriented *division* of the large firm, the reductions can have a disastrous effect if a substantial portion of its business base disappears. Except as these divisions are able to redeploy their resources into commercial markets already available to their parent company, their future may be limited. In any event, their ability to redeploy resources successfully will be a function of the general strength of the economy in the near term and the ability of the parent corporation to compete in non-defense markets.

For some large firms the adjustment to lower defense budgets may be extremely disruptive given the absolute size of their defense sales. The disruption may be magnified by the loss not only of the profits earned from defense contracts, but also by the contribution to corporate overhead that these sales provide. Additionally, there will be the loss of funds previously devoted to independent research-and-development activities. In other words, the loss of otherwise discretionary income can be significant even for the large-scale diversified firm.

Once again, the down-sizing will be more traumatic if competitive pressures lead to price reductions. Here the reasoning follows the same path as for the small-scale defense firm. The key factors will be resource adequacy; sufficient capital to live through a strategic restructuring; commercial markets in which it has both expertise and a reputation; and the management resources to guide the firm through the required change-over. Lacking these assets, even the defense-based division of a larger firm will face a relatively dim future.

Summary

Given the above, two diverse trends within the defense industries can be identified. The first and more favorable trend is the growing consolidation of large firms within the defense industry. This is a market-driven outcome whose ultimate effect should be the preservation of the technological base on which the defense acquisition process relies. Moreover, by forcing the elimination of many of the recognized redundancies in the defense industrial sector, the trend toward consolidating the industry should eventually bring about rational reductions in the cost of major weapon systems.[9]

[9]The DoD has long recognized that its policies supported an industrial base far larger than was necessary for its present and forecasted needs. In many instances, competitive factors were modified to allow for a set of conditions in which no major firm was forced out of business, or even forced to sustain substantial and uncompensated losses on defense contracts. Having fewer firms in the industry can have the salutary effect of eliminating surplus capacities and facilities, thus leading to an overall reduction in the cost of major weapon systems. The counter argument here, of course, is that the surviving firms will face less competition in the future than they have in the past. This should pose noproblem provided only that the DoD modifies its bargaining practices, that is to say, compensates lower prices with higher profits. The Federal Acquisition Regulations (FARs) provide for this contingency, or can be modified to do so.

The less favorable trend has already been discussed: the potential loss of a substantial portion of the manufacturing base on which the defense acquisition process has previously relied. The remedies for this problem may possibly be found in a greater acceptance of commercial analogues, a redesign of products such as has been accomplished in many civilian industries, in investment of new manufacturing equipment and/or procedures, in the greater reliance on foreign sources for manufactured products, or in the development in traditional non-defense manufacturing facilities of some of the specialized capabilities needed for the manufacture of sophisticated weapon systems. In no event will the problem allow a simple solution, because of the diffuse nature of the subcontracting process. Unlike the on-going market-driven restructuring of the large-scale defense firm, government intervention may be essential in this area. Fortunately this topic is beyond the scope of this project. German practice, however unadaptable in its entirety to American realities, does provide some insights into potential solutions for this problem. That has been one of the required foci of this effort.

APPENDIX A
The Explanatory Matrix

On Using the Matrix:

The matrix was originally developed to capture some of the impressions gained during the initial phases of the research effort that led to this publication. As originally conceived, the matrix was to be a screening device from which later decisions could be made as to which items might be the more important ones in any analysis of German industrial behavior. As such, neither the number of topics to be included in the matrix nor the secondary discussion of these topics was designed to be exhaustive.

However, as later became obvious, the matrix had value as a potential outline for the series of reports that were to be the output of this research effort. Moreover, as was later shown, it had significant value as a structuring device in a comparative course in international business. The topics are sufficiently broad in context for this purpose. Last, it was recognized that it was a relatively concise way of informing a business person as to what they should expect to find when doing business in Germany.

In preparing the matrix, however, a substantive problem surfaced: How extensive should the list of topics be in the matrix. Should it present a set of key terms in Economics and Industry Level Competition Theory *only*, or should it be broadened to cover a whole range of topics, for example, Ideology and Education? Here the rationale underlying the ultimate decision to include these other topics is quite informative.

Not only is Germany different from the United States (U.S.) but, more pointedly, it is *sui generis*: one of a kind! This is, of course, not evident on the surface. German business appears to operate in much the same way as American business. This is easy to maintain if one assumes that "management is management" irrespective of the country and culture in which business is conducted!

But this is not true. It is not the reality of the situation. German legal form, German corporate form and the German perception of competition and competitive strategies are quite different from those found in the U.S. The reasons for this can only be understood by taking a comprehensive view of the institutional forces - and the interplay between these forces - that make up the over-all Germanic system. Without some prior knowledge of the German educational system one cannot appropriately understand German industrial organization. Similarly, without some prior knowledge of the role and functions of the *Verbände* one cannot begin to grasp the Germanic concept of *Ordnungspolitik*, or the principles around which much of its social and industrial structure is organized. Because of this, the number of topics finally included in the matrix was broadened, as was the underlying research effort. The matrix is, thus, no more and no less than an effort to provide an "indicative" listing of the topics that need to be considered in any complete analysis of behavior within the German industrial organization.

A number of these topics were discussed informally in greater detail in Chapter 6.

THE EXPLANATORY MATRIX

United States	Germany
Ideology	
Individualism	Communitarianism
Free-market economy	Free-market economy
Common law	Codified law (Napoleonic) based on Roman law
Countervailing power	Consensus Formation
Antipathy toward the development and/or the espousing of a national industrial policy	Industrial policy an integral part of the legislative process
Sense of nationhood well defined	Continuing search for national identity; increasingly sought on a supranational European Community Level
Economics	
Free-market economy	Free-market economy
Laissez faire attitude toward business	Defined national policies with political beliefs on the communal responsibilities of the business community
Price-oriented managerial concepts and practices	Cost-oriented managerial concepts and practices
Domestic markets dominate the economy	Export-dependent economy
Large companies dominant	Middle-size companies the centerpiece of the industrial structure
Active primary and secondary stock market: equity-based capital structures dominant	Small stock market, bank financing dominant: debt-based capital structures dominant
Emphasis on publicly-owned (traded) firms	Emphasis on privately-owned firms but with increasing number of publicly-owned firms

Antipathy toward subsidizing industrial development other than defense	System of subsidies for key industries termed critical to a growing economy
Identifiable defense industry	Defense industries integrated with civilian industry
Low saving rate (individual)	High savings rate (individual)

Education

No national control of school systems, educational standards or certification procedures	Federal and state systems, with the Federal government providing policy inputs, but with the states as the "supreme authority" in matters of education
Academically-oriented system; little or no emphasis on vocational education	Heavy emphasis on vocational and continuing education system, federal and state sponsored and managed. Comprehensive work skills testing and certification procedures. Major emphasis on apprenticeship training programs.
Lessened emphasis on science and engineering programs at the university level	Major emphasis on science and engineering programs at the university level up to the master's level
Engineering and science not regarded as most appropriate training for managerial positions	Engineering regarded as the best training ground for future managers
Little emphasis on "hands-on experience" as an integral part of the formal education system	Hands-on experience, or *Praktika*
Professional standards rarely defined by the government	Professional standards always defined by government
State Certification of teachers	*Länder* standards and certification; teachers and professors are civil servants of the individual *Länder*
Outcome assessment arbitrary to non-existent	Standardized outcome assignments: Federal rules and guidelines in force
Private and public school system Local funding	All education public and free, at all levels of schooling

Local funding	Federal and state funding
Corporate Governance	
"Unitary" Board of Directors responsible for the management of the corporation	Board of Directors (*Aufsichtsrat*) separated from corporate management (*Vorstand*)
Members of the board may also be the managing executives of the firm	Half of Board elected by stockholders, other half by labor. Board appoints management group. Member of the Board may not be a member of management and vice-versa
By tradition, no labor representation on the Board or in the management of the firm	By law and tradition, labor now allowed to appoint the firm's personnel manager (*Betriebsrat*).
Common stocks in owners' name	"Bearer" shares normally held by bank (as clearing agent) for owners. Right of proxy normally granted to banks.
Legally restricted ability to interfere in the management of the non-financial firm.	Significant ability, legally and otherwise, to interfere in the management of the non-financial firm
Primary responsibility to stockholders	Primary responsibility to community
Export Base	
Big company-oriented	*Mittelstand*-oriented
No overt subsidies	Remission of specific taxes and other forms of subsidies
Long-term trade deficit	Long-term trade surplus
Second largest exporter in the world	Largest exporter in the world
Labor Policy	
No defined national policy	Defined policies, 70% of gross domestic product "rule"

Company-level union negotiations	Industry-level negotiations
No union participation in management	Union participation mandated by law
Unions focus primarily on local or regional problems	Unions often focus on national labor problems providing inputs to national industrial policy

Civil Service

Anti-bureaucratic tradition	Strong civil service tradition
Role of civil service limited	Major role of civil service in all areas (the law included)

Legislative Oversight of Defense Industries

Substantial Congressional oversight	Negligible oversight once programmatic decisions are made
Annual funding cycle	Multi-year funding
Separate accounting and standards systems for defense industries	One system only for all firms
Heavy emphasis on price competition	De-emphasis on price competition: industrial base too small in many cases
Primary issue: price	Primary issue: quality

Tax Policies

Revenue-oriented	Investment-oriented

Banking System

Glass-Steagal emphasis	Universal banking system
Banks and other financial institutions either "discouraged" or otherwise not allowed to actively participate in the management of non-financial corporations	Long tradition of significant bank ownership of the common stock of non-financial financial corporations, and active involvement in the management of these non-financial firms

"Arm's length" banking	Relationship banking
Retail banking emphasized	Wholesale banking emphasized
No governmental ownership of banks or financial institutions	Mixed government, private sector ownership of banks based primarily on specific banking function
Strong central bank: Federal Reserve	Strong central bank: *Bundesbank*

Technical Standards

Separate industrial and military standards	Industrial standards as well as defense industry standards
Loosely codified	Strict codification

Industry Level Competition Theory

Differentiation	Niche
Domestic	International
Stockholder return	Business growth
Profits	Market Share
Price competition emphasized	Quality and utility of products stressed
No concerted emphasis on high value-added products	Emphasis on high value-added products
Heavy emphasis on consumer goods	Emphasis on producer goods
No great stress on capital intensity	Capital-intensive manufacturing
Production line orientation	"Product-oriented" production systems
Economies of scale oriented	Small lot orientation: emphasis on flexible manufacturing systems
Tendency of high overhead structures	Low overhead structures; de-emphasis of middle management function

APPENDIX B
General Economic Statistics

Sources for all the following charts were obtained from various issues of the *Economist*. Please refer to the Bibliography for further details.

B-1. 1988 Data

Country	National GDP ($bn)	Per Capita GDP
United States	$4,881	$19,815
Japan	2,860	23,325
W. Germany	1,208	19,743
France	950	17,004
Italy	829	14,342
U.K.	826	19,815

B-2. Trade in Goods and Services as a Percent of GDP

United States	11.7%
Japan	17.7%
Germany	29.6%
France	21.5%
Italy	18.3%
U.K.	30.2%

B-3. Visible Imports and Exports ($bn)				
Country	Exports	Imports	Balance	Exports as a % of World Trade
United States	$319.7	$446.5	($126.8)	11.83
Japan	259.8	164.8	95.0	9.79
Germany	308.8	230.1	78.7	11.94
France	160.6	168.7	(8.0)	6.20
Italy	128.1	128.8	(0.8)	4.74
U.K.	143.5	180.5	(37.0)	5.36

B-4. Industrial Output		
COUNTRY	$bn	Per Capita $
United States	$1,250.0	$5073
Japan	1,155.0	9423
Germany	479.7	7838
France	305.0	5458
Italy	286.0	4979
U.K.	295.0	5073

B-5. Output by Commodity ($bn)				
Country	Chemicals	Machinery and Transport	Food and Agriculture	Textiles and Clothing
United States	$124.9	$473.3	$149.9	$62.5
Japan	115.5	439.1	115.5	69.3
Germany	48.0	182.3	57.6	23.4

B-6. Population Data (mn)	
United States	246.3
Japan	122.6
Germany	61.2
France	55.87
Italy	57.44
U.K.	57.08

B-7. Stock Exhanges: Capitalization		
Country	Trading Volume ($bn)	No. of Listed Companies
United States	$1,862.9	7977
Japan	644.4	1444
Germany	78.4	449
France	41.1	504
Italy	25.7	143
U.K.	242.7	2171

APPENDIX C
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